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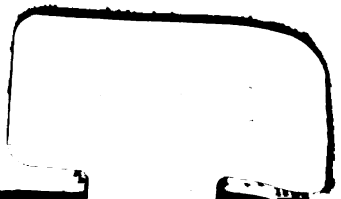

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MEDIEVAL ARCHITECTURE

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MEDIEVAL ARCHITECTURE
ITS ORIGINS AND DEVELOPMENT

WITH LISTS OF MONUMENTS AND BIBLIOGRAPHIES

BY
ARTHUR KINGSLEY PORTER

VOLUME I
THE ORIGINS

NEW HAVEN
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PREFACE

WHILE I venture to hope that the following chapters may not be altogether without value to the more advanced student, they have been designed primarily with the view to putting the general reader in possession of such knowledge as is indispensable for the appreciation and enjoyment of the great masterpieces of Gothic architecture. I have also tried to supply the tourist with a *vade mecum* of somewhat larger scope than has hitherto been attempted.

The present two volumes by no means cover the entire field of the architecture of the Middle Ages. If I have chosen an over-ambitious title, it has been in the hope that circumstances may some day permit me to supplement the present volumes with others dealing with those styles that I have here left untouched. But however this may be, the book as it stands at present attempts to unravel only a single thread from the tangled skein of medieval art. This thread has its origins in Antiquity and stretches unbroken to the Renaissance; it is made up of that succession of formative or generative styles that shaped the architectural destinies of Europe. These formative styles are the key of medieval architectural history; if the main events of their development be once firmly grasped, a perspective has been gained on the entire subject of medieval art, and the various minor styles will at once fall into their due position in regard to the broader tendencies of the times. For this reason I even hope that the present volumes may prove to be of more value to readers to whom the devious turnings of the art of the Middle Ages are comparatively unfamiliar, than a book more comprehensive in scope.

In order to trace more clearly these formative styles and their growth, I have tried to write not so much a history of a certain number of more or less arbitrarily chosen monuments, as a

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history of groups of monuments, of styles. I have not hesitated to devote much space to the discussion of the formation, the development, the culmination of these styles considered in their broadest terms; to their mutual interrelations, and to the effect on architecture of the social and economic peculiarities of the age. It has long been recognized in the field of political history that the historian who would convey a true understanding of a period must go far beyond a mere catalogue of kings, battles, and dates. Similarly in architectural history, there has been a decided tendency of late years to lay greater emphasis on the broader significance of events, to see in the general course of development something far deeper, more vital, than the individual building, its individual peculiarities, and its date.

In order to concentrate attention on these broad aspects of the subject, I have been obliged to make drastic changes in the time-honored form of architectural history. The aim of the present work seemed to me to be best fulfilled by banishing from the text all monographic matter, and referring to particular buildings only as the context required, without stopping for long and necessarily dry discussions of date and detail.

I have not, however, believed that I was justified in omitting altogether this monographic material; too many questions of uncertain and disputed date were constantly involved, in which the reader had every right to know the reasons for the particular side adopted. I have therefore compiled for each chapter — except the first two which hardly form part of the body of this work — a list of monuments annotated with considerable fullness. The reader will here find a brief discussion of questions of date, and a general description of the more important features of each monument. While not pretending to be complete, I believe that all monuments of importance are included, and I have striven to make the lists as comprehensive as possible.

To facilitate reference, a separate list has been made for each period, and the monuments have been divided into four classes, according to their importance. In each class precedence in the list is given to the most interesting and significant structures.[1]

[1] Except that in the same city several monuments of the same period are not separated. Paris, for example, is ranked for the sum total of its monuments.

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This classification, it is of course understood, is purely arbitrary and frequently very approximate. It is often impossible to give exact preference between half a dozen monuments, one of which is interesting in one way, another in another. Thus this arrangement must not be taken too literally. However, I believe it will be of some value in giving a general idea of the relative importance of monuments, and if the superiority of No. 17 over No. 18 be not always very pronounced, that of No. 1 over No. 40 will be.

An index has been prepared for these lists of monuments with the same care as for the main work. This, it is hoped, will facilitate reference, and also add to their value as a travelers' guide. For a number of monuments one or more monographs of varying excellence have appeared, and these can generally be procured on the spot. When this is the case, their purchase is always to be recommended, as they will usually be found to contain much valuable information which lack of space makes it impossible to include in any general work. In the bibliographies, of which I have made an appendix, I have taken special pains to note all the monographs of which I could learn, and, where I have known them, I have added a sentence of criticism. However, for many monuments even of importance, there are no monographs worthy of the name obtainable; and since the traveler is unable to carry about with him the entire library necessary for the study of such buildings, it is hoped that the list of monuments will prove to be of value. At the end of each note will usually be found in parenthesis a reference (which has been made explicit when possible [1]) intended to serve both as authority for the principal facts cited, and as recommendation for further study of the monument.

It is with reluctance and with a realization of the fact that they can be of but little service to the professional archæologist that I print the Roman and Early Christian Bibliographies at the end of this volume. In these fields, where numerous bibliographies and indexes of all sorts have already appeared, modern

[1] It should be understood that where the contents of an entire book have been compressed into one or two lines, page references are often impossible.

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scholarship rightly demands from the bibliographer not only that scrupulous exactitude that can be acquired only by long years of experience in this particular art, but that the lists be absolutely complete, and that the information given concerning each volume be exhaustive. It also demands the most profound knowledge of many controverted questions of topography, and other branches of classical archæology, having but the faintest possible bearing on architecture proper. For such a bibliography there has been at my disposal neither the ability, the time, nor the space. I have simply given lists of those books that have happened to come to my notice, lists incomplete, — though I believe but few very important works are omitted — and too often giving but insufficient details even of the books quoted. As such they are given for what they are worth, in the hope that, however inadequate, they may still contain information that may be of use to the reader, and, perhaps, save him time and trouble in seeking it elsewhere. In regard to the bibliographies of the later periods I feel more confidence, for, while they fall far short of the standard I could wish to attain, the utter lack of any bibliography worthy of the name dealing with the architecture of these epochs leads me to hope that my lists may not be without their usefulness until that much-to-be-desired day when an adequate bibliography of medieval architecture appears.

The bibliographies have been classified in a somewhat arbitrary manner, but one which, I think, will be clear on reference to the scheme on p. 335. Under each heading precedence in the list is intended to imply preference, the best books being placed first. The bibliographies have been indexed both for subjects and authors, but not for titles except in the case of a few anonymous works. In referring to a work in the text, or in the list of monuments, I have cited only the name of the author and the page, since the full title of the work may be found readily by reference to the index and the bibliographies.

For illustrations I have preferred photographs whenever available as being more accurate and as presenting architectural forms as they actually appear. In addition, a large number of

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drawings have been made expressly for this work by Mr. Mayer and myself, and I am also happy to publish for the first time two superb measured drawings made in Rome by Mr. Covell.[1] Where original material could not be obtained, I have reproduced previously published drawings. These will be found all duly accredited in the List of Illustrations.

It has been a fundamental part of my plan to assume no previous technical knowledge on the part of the reader. As each technical word or phrase has come up I have tried to explain it in the text or illustrations or else to use it in such a context that its meaning will be obvious. Once thus explained the term is freely used afterwards, but the first explanations have been indexed for ready reference. I fear that for more advanced readers such obvious information may prove a cause of annoyance. I believe, however, that these parts may readily be passed over, especially the first two chapters, which are intended as an introduction for those having no acquaintance with the subject.

I have been much embarrassed and perplexed on the subject of proper names. Only one who has read extensively in English architectural works can appreciate the inexpressible confusion that has arisen through the custom of anglicizing certain foreign names and not others. Even at the risk of laying myself open to the charge of pedantry, it seemed to me necessary in the interests of clearness and common sense to adopt some consistent system for the names of churches. I have accordingly retained the Italian names for Italian monuments, the French names for French monuments, the German names for German monuments. I have even referred to the old basilica of the Vatican as S. Pietro, though I confess it cost an effort. However, a few exceptions have been made; in dealing with the Byzantine monuments of Constantinople, I have gone back to the original Greek forms, the modern Turkish being generally unintelligible, and in classical monu-

[1] Those of the Basilica Julia (restored) and the entablature of the Temple of Castor and Pollux. These drawings were unfortunately somewhat damaged before they fell into my hands to be photographed. I, of course, am in no way responsible either for the correctness of the restorations or for the exactness of the measurements.

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ments, I have not ventured to tamper with the established English usage, feeling that there are many hands far more capable than mine to introduce the much-needed reform in this field. In the list of monuments I have always tried to give the various names which are commonly used to denote the same building.

In handling so vast a mass of material I dare not hope that all inaccuracies, all slips of the pen have been eliminated. The danger has been ever present before my eyes, but no one can realize as well as the author the extreme difficulty of guarding against all errors. I can only ask the reader's indulgence for such as may have escaped me.

Before laying down the pen, I want to say a few words of thanks to the friends who have aided me in my labor. First of all to Mr. W. H. Durham, who has most generously revised the MS. for me, and without whose advice and sympathetic criticism I should hardly have cared to undertake so ambitious a work; to Mr. E. R. Smith, the librarian of the Avery Library, who has put the entire resources of that splendid collection at my disposal, and aided me with unfailing courtesy and patience; to Mr. E. A. Rueff, who has been untiring in his efforts to secure photographs for me from all over France, and to whose good offices I owe many of the illustrations of the second volume, as well as endless material indispensable for my own study; to Mr. W. E. Covell for his kind permission to reproduce the two drawings already mentioned; to Mr. MacD. Mayer for over forty drawings; to Messrs. F. B. Warren and F. J. Walls for other drawings; and to Mr. A. E. Neergaard for the solution of several knotty problems in the interpretation of obscure Latin texts.

A. KINGSLEY PORTER

320 CENTRAL PARK WEST, NEW YORK CITY.
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MEDIEVAL ARCHITECTURE

CHAPTER I

THE HERITAGE OF ANTIQUITY

THE year 476 A.D., when the last of the nominal Cæsars ceased to rule in the West, is usually taken by historians as marking the fall of the Roman Empire. Strictly speaking — as has often been pointed out — the fall of Rome commenced long before; — not at the breaking of the boundaries by the barbarians in 378, not at the proclamation of Christianity under Constantine in 313, not at the decadence of Roman virtue as witnessed by emperors of the Nero type, not at the abolition of the republic by Augustus — significant as are all these events of the change that was taking place — but at the very high-water mark of Roman power and conquest, at that moment when, on the shores of Lake Geneva, Julius Cæsar opposed the first German migration under Ariovistus (58 B.C.). Long after this the material prosperity of Rome continued to increase; wealth poured into her treasuries in redoubled streams; luxury was carried to its extreme; the arts ran riot in unheard-of splendor. But the point of the wedge had been inserted. In vain the Romans achieved victory after victory. An unceasing, unremitting force had begun its attacks on the Roman state, sapping the foundations by continued assaults, as irresistible, as inevitable, as the rising tide of the sea.

For five centuries horde after horde of barbarians flung themselves against the Roman frontiers, each striking deeper than the last, and being repelled with greater and greater difficulty as the Empire sank beneath internal decay. But while the visible, political Rome was thus disappearing under the open warfare of the Germans, a far subtler, more intangible, but none the less real Teutonizing was going on from within. The life blood of antiquity was gone, its vitality exhausted.

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Long before its visible downfall the population of the Roman Empire had become largely German. The slave market, the army, countless causes, brought Teutonic inhabitants within the boundaries. The process of amalgamation set in. The Teuton living at Rome doubtless absorbed much of Roman culture and civilization — much more than his tribesmen outside the border, who were brought into only occasional contact with the Empire — but in return he infused a certain amount of barbarism and Teutonic vigor into his Roman neighbors. Thus, when the Roman civilization passed away, it yielded not only to the armed barbarian without, but to the allied barbarian within.

If, then, the fall of Rome began many centuries before 476, it continued as long after; nor, in a sense, can it be said ever to have been wholly accomplished. Italy was ruled by the Goths, the Byzantines, the Lombards; but centuries after the barbarian invasions the mystic belief in the immortality of the Roman power reawoke under that shadowy dream kingdom, the Holy Roman Empire, and lived on until the XIX century, at times with very real vitality. Similarly, the true glory of Rome, her civilization, her arts, her law, while yielding to German influences, never disappeared beneath them; and all western Europe, with Italy in the lead, in the darkest of the Dark Ages, always retained a large amount of Roman institutions, customs, and arts.

The heritage of Roman civilization passed, then, to its conquerors; they accepted as much of the patrimony as they were able, taking more or less, applying it with greater or less skill, according to their capabilities and circumstances. In most respects the Germans possessed a rudimentary civilization of their own — they were barbarians, not savages — and the German ideas, though modified by the Roman, survived. Thus two distinct sources united to form the civilization of the Middle Ages. In many fields — notably, for example, in law — the Teutonic element rather outweighed the Roman; but in architecture the case was exactly reversed; in the early ages the Germans added very little that was positive to the Roman traditions.

No architecture worthy of the name was possessed by the

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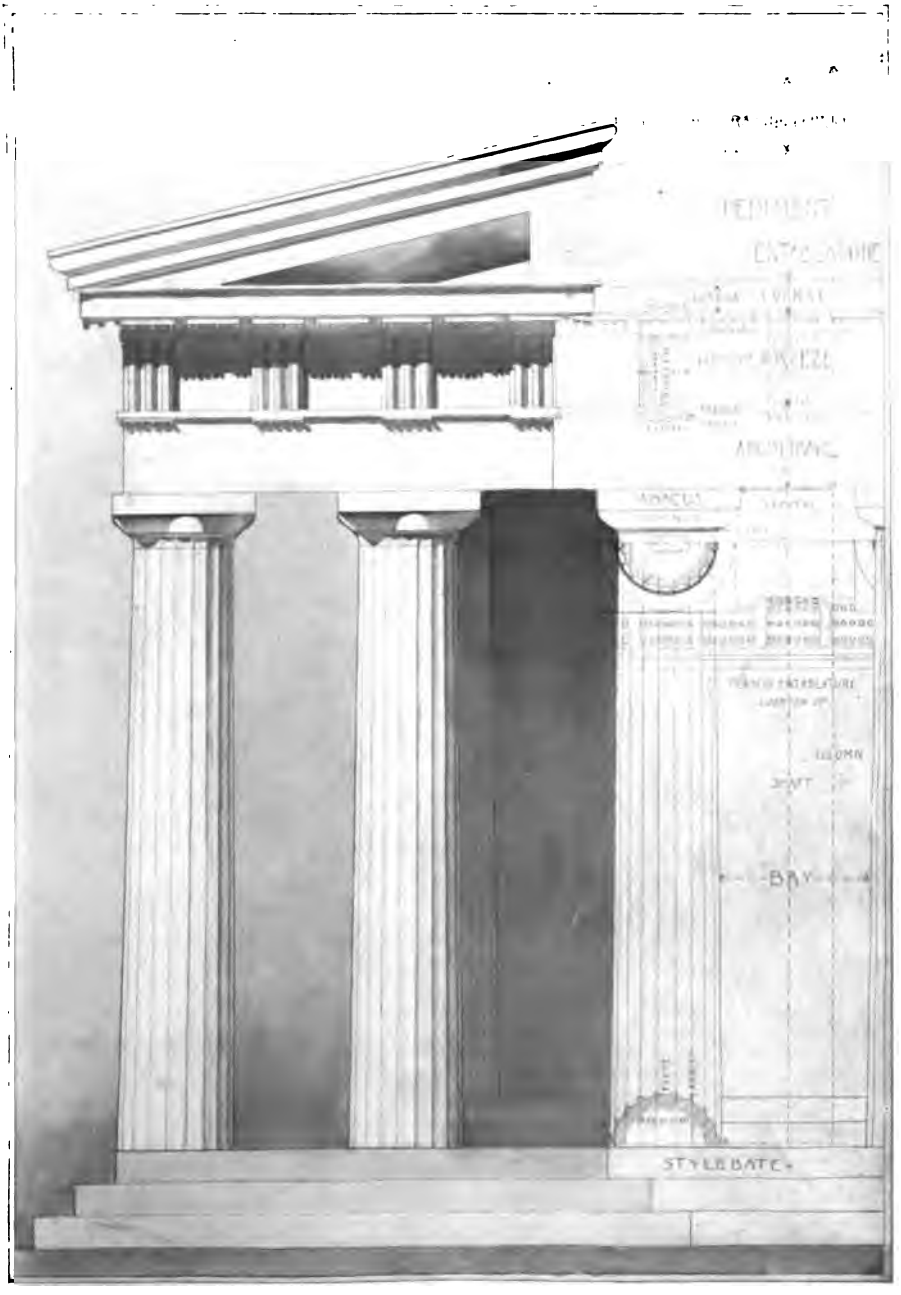

ILL. 1. — The Greek Doric Order (of the Parthenon)

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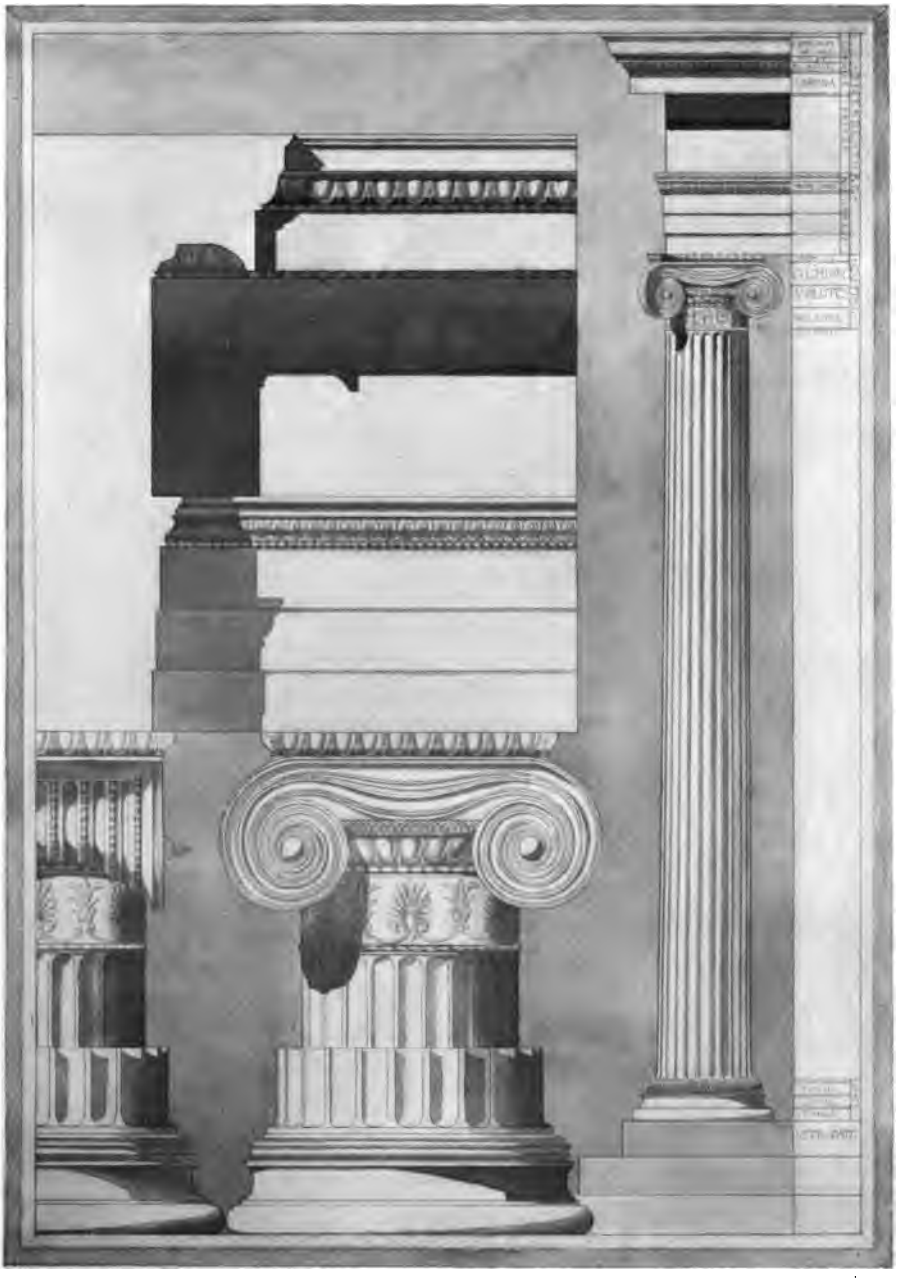

ILL. 2. — The Greek Ionic Order (of the Erechtheion)

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Germans before the migrations. They lived in huts, and had neither the skill nor the desire to build edifices on a large scale. Consequently they possessed no traditions of structure which could rival the Roman style of building; their crude ornament could not for an instant vie with the sumptuous classical decoration. German influence on Roman art is therefore at first only negative. The barbarian invasions caused merely a decline, in which the old elements were degraded, but nothing new added.

As the Roman workman, therefore, came more and more under barbarian influence, his skill fell off; he could no longer build such monuments as his predecessors had done. He had, however, no other examples to imitate; and so he approximated as nearly as he could to the old Roman style. As time went on, and technique became more and more crude, the difference between the new and the old became wider and wider; the Roman construction in many ways became too difficult; and the necessity of discovering easier methods of building changed the entire aspect of the art. New influences came in from the East. The old Roman types were forgotten, the builders ceased impotently to imitate the classic, and began instead to improve on their own earlier efforts. New principles, new ideals came to be recognized. At length the long-lost skill in construction was rediscovered, and at last the glorious Gothic rose triumphant from the ruins of shattered architrave and cornice. Such in outline is the story of medieval architecture; a story of decay, of newborn hope, of struggle, and of triumph, passing through many vicissitudes, affected by many impulses, influenced often and from many directions. But the base from which all starts, the foundation-stone on which all rests, is Rome. Through all changes, through all the centuries, the Roman influence survived in whole and in detail, always present, always clearly visible.

It is evident, therefore, that any thoughtful study of medieval architecture must start at Rome. The great heritage of antiquity — what the builders of the Middle Ages began with — must be thoroughly comprehended, before the changes effected by subsequent ages can be understood. The history of clas-

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sical architecture, particularly its chronology, are without the scope of the present work; but our study must commence with a description of the more salient characteristics of Greek and Roman architecture, and especially of such as deeply impressed themselves upon the ages yet to come.

Greek and Roman art are to be sharply distinguished, and not, as is too often the case, loosely confused under the vague term "classical." Both may be said to be columnar styles, in that the Roman frequently borrowed in modified form the use of orders from the Greek; but here all resemblance ceases. In construction, in detail, in spirit, the two are in contrast.

Greek architecture is chiefly distinguished by the use of orders — *i.e.*, of columns, capitals, and entablature designed after certain more or less fixed types and arranged in proportions more or less rigidly determined by precedent. The simplest and most beautiful of all orders is the Greek Doric (Ill. 1).

This order has a distinct character, which, once grasped, can never be forgotten, although it is difficult to put one's finger on any single feature which in some cases will not be found changed or omitted. In Greece the orders were never reduced to dry formulas as in Roman and Renaissance times, and the various examples show among themselves a charming and refreshing variety that allows almost any characteristic of the order, however salient, to be varied according to the taste and discretion of the architect. Still, the mutules of the cornice, the frieze with triglyphs and metopes, the architrave moulded with only a single fillet along its upper edge, the capital consisting of a plain, uncarved echinus, circular in plan, beneath a square abacus; the severe and heavy shaft with (usually) twenty flutes meeting in sharp arrises: — all these are features peculiar to, and generally present in, the Doric order. The *Greek* Doric is distinguished from other Dorics primarily by that intangible thing we call refinement. The proportions are always good; in the best examples they are exquisite. The profiles of the Greek mouldings are of wonderful delicacy and beauty, being carefully studied arcs of parabolas, hyperbolas, or ellipses, almost never segments of a circle. Similarly the echinus or the capital is a hyperbolic curve — sometimes widely bulging in

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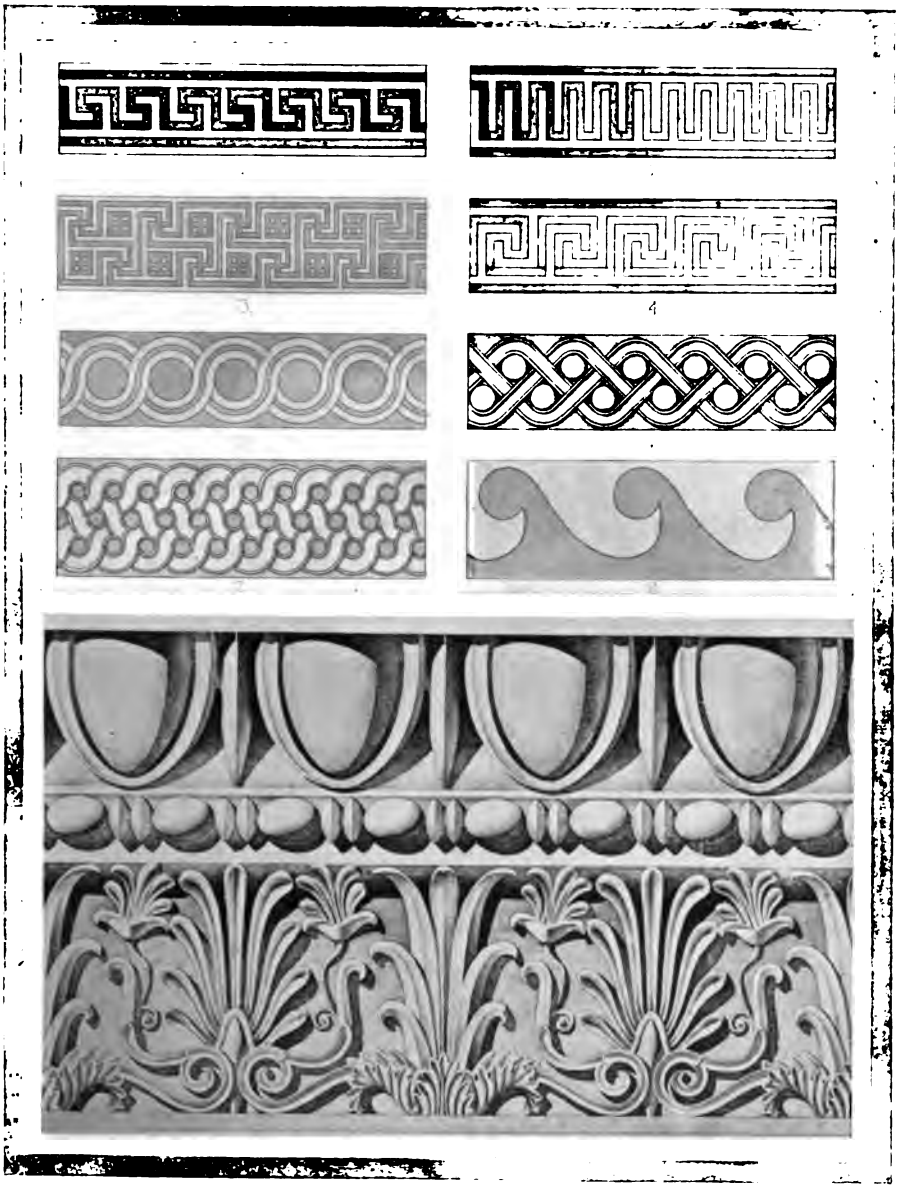

ILL. 3. — Greek Ornaments. Fig. 1, 2, 4. Meanders from Vase Paintings. Fig. 3. Double Meander from the Abacus of a Doric Capital. Fig. 5. Simple Guilloche from a Vase Painting. Fig. 6, 7. Carved Double Guilloches. Fig. 8. The Vitruvian Scroll. Fig. 9. Fragment of the Entablature of the Tholos of Epidauros

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ILL. 3*a*. — Corinthian Capital from the Tholos of Epidauros. Sketch by F. B. Warren

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outline, sometimes nearly or quite straight, but never a quarter-round. The capital is separated from the shaft only by the sinkage. There are no mouldings below the fillets terminating the echinus. Most characteristic of all, the shaft has no base, but rests directly on the stylobate.

The Greek Doric, to be appreciated, must be considered in connection with the colored and plastic ornament on which its effect must have largely depended. The metopes and pediments were usually filled with sculptures which, while of perfectly architectural character, were still of the highest merit as individual works of art. In the Parthenon, the continuous frieze of the cella wall was also ornamented with reliefs, and all these sculptures were highly colored. Even the mouldings were richly decorated with tints and painted motives, and the blank wall spaces were colored, or received a rich golden tinge from the natural weathering of the marble. Thus a Greek Doric temple in its glories of sculpture and polychromy must have presented a richness of color and a variety of detail which it is difficult for us to imagine.

It is not too much to say that the Greek Doric order, although evolved as it was five centuries or more before Christ, embodies in itself all that is best in columnar architecture. Further study will always reveal new perfections. No subsequent builders have ever so effectually combined vigor and strength with grace, refinement, and delicacy.

The Greek Ionic (Ill. 2) has even more grace, but less strength. Its most striking characteristic, of course, is the capital with volutes. The abacus here is no longer a square block, but is moulded in the form of a *cyma reversa*. The necking falls some distance down the shaft. The shaft itself has twenty-four flutes meeting in flat arrises. The base usually consists of two tori, separated by a scotia, the upper torus being often fluted horizontally. As for the general proportions, the slenderness of the shaft and the lightness of the entablature at once strike the eye. In the Ionic order the architrave is moulded, and it is the frieze which remains plain — just reversing the disposition of ornament in the Doric entablature.

A few examples of the Corinthian order — really an Ionic

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order with a new kind of capital (Ill. 3 *a*) — are found in Greece, but as this order was never freely used by the Greeks of the best period, it will be described later in the chapter, in connection with Roman architecture.

Employing thus, in general, only two orders — the Doric and the Ionic — the architecture of the Greeks or, at least, the monumental architecture — was not highly varied. The plans of Greek temples (Ill. 4) were for the most part simple. A rectangular [1] building of stone with elementary internal divisions was preceded by a portico formed of free standing columns. This portico might be continued around all four sides of the building. These simple elements were united in various combinations so as to form a variety of types of building ranging from the plain little temples *in antis* (Ill. 4, Fig. 9) to the great peripteral structures (Figs. 2, 10, etc.). Examples of most of the regular types of Greek building and some exceptional cases are shown in Ill. 4.

Even less complex than the plans, were the interiors of Greek monuments. In this portion of the edifice the Greeks seem to have clung to forms almost naïvely simple.[2] At least, in the temples — the most truly characteristic and monumental Greek buildings [3] — little ingenuity is displayed in the internal arrangement and decoration, so far as it is possible to judge from the fragmentary ruins that have come down to us. Since there were ordinarily no windows, the light could have been admitted only through the grill work of the great doors.[4] In larger structures the cella was divided into three aisles by ranges of columns, — so placed, perhaps, partly with a view of furnishing inter-

[1] The Greeks constructed a few circular temples, precisely analogous to the rectangular types, except that a circular core was substituted for the rectangular one (Ill. 4, Fig. 6).

[2] The Greeks were an out-of-door people, who loved the fresh air and who did not care to be confined within a building. Hence it was that their architecture was so essentially external. Even the temples were seldom entered; — they were intended to be viewed only from the outside.

[3] Beside the temples, theaters stoas and propylæa were given monumental treatment by the Greeks. Buildings for utilitarian purposes were in the main irregular and unpretending. Since the theaters, propylæa, and stoas were open air buildings, practically without interior, only the temples remained to offer opportunities for internal adornment.

[4] It is now known that the so-called hypæthral temple was extremely rare in Greece. Perhaps the only instance in Greece proper that has come down to us, is the example of Jupiter Olympus, at Athens. The best preserved example elsewhere is the Didymæan of Miletus (Ill. 4, Fig. 10).

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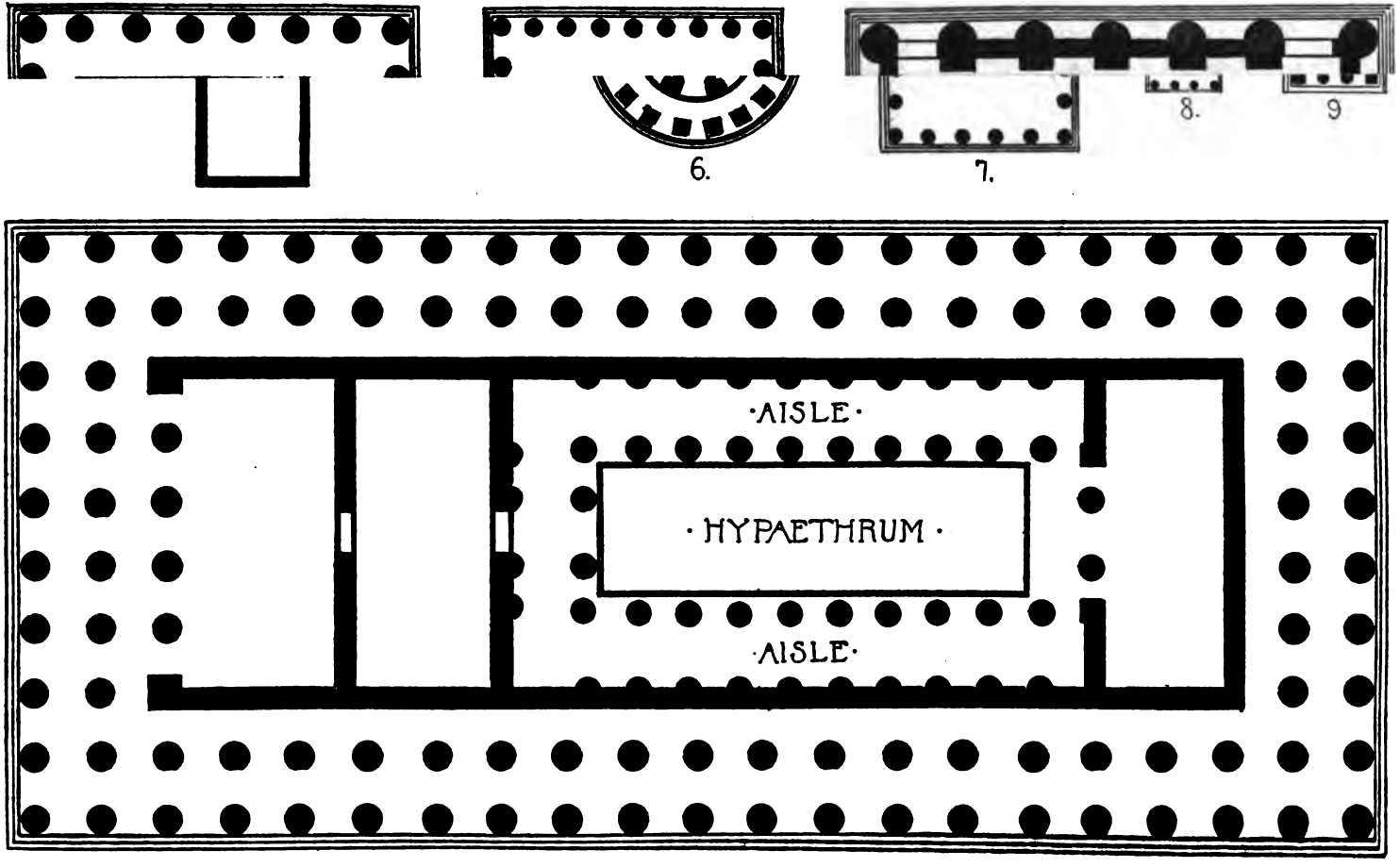

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ILL. 4. GREEK TEMPLES

1. The Parthenon. Hexastyle (with six columns on the end) peripteral (with columns on all four sides). 2. The Basilica (so-called) at Pæstum (after Koldewey). Enneastyle (with nine columns on the end) peripteral. 3. The Temple of Zeus, at Girgenti. Heptastyle (with seven columns on the end) pseudo-peripteral (surrounded by columns built into the wall, *i.e.*, engaged). 4. The Erechtheion (temple of Erechtheos) at Athens. The two cellæ are on different levels, and were connected by a staircase. 5. The Propylæa (entrance gates) of the Acropolis, Athens. 6. The Philippeion at Olympia (after Curtius). Peripteral circular building. 7. Treasury (treasure-house) of Gela at Olympia (after Curtius). — Hexastyle (with six columns on the end) prostyle (with columns on the front end only) 8. Temple of Nike Apteros, Athens (after Laloux). Tetrastyle (with four columns on the end) amphiprostyle (with columns on both ends but not on the sides). 9. Treasury of Sikyon at Olympia (after Curtius). Temple *in antis* (with columns only between the Antæ — *AA*). 10. Temple of Apollo Didymæos, at Miletus. Decastyle (with ten columns on the end) dipteral (surrounded by a double row of columns). Owing to the difficulty of roofing so large a temple as this, the central aisle of the cella was made an hypæthrum: — *i.e.*, an open court

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mediate supports for the beams of the roof. To diminish the diameter of these columns, that they might not occupy an excessive amount of floor space, they were built in two superimposed stories separated only by an archivolt. In some cases it is probable that a wooden floor was thrown across from this archivolt to the wall, forming a kind of gallery. Thus in its general arrangements, the Greek temple may not improbably have been the prototype of the Roman basilica and hence of the Christian church. The long rectangle divided into three aisles of which the central one is highest; the timber roof; the galleries; the stately rows of columns — all this, indeed, presents striking analogies to the Christian basilica. Only the clearstory — of which more in a moment — is lacking. But yet, attractive as seems this derivation, the restoration of the Greek temple interior — of which no example, nor any very certain indications have come down to us — remains too uncertain to make it possible to present the hypothesis with confidence.

Equally simple was the exterior design of Greek buildings. The characteristic and practically the sole motive employed was the colonnade. These colonnades might be constructed in two stories, or they might be in doubled rows; but in some form or other every monumental building, whether temple or stoa,[1] propylæon[2] or theater, presented somewhere a portico of Doric or Ionic columns. Greek architecture thus in a way lacked variety. Yet no more beautiful motive than these colonnades with their pediments has ever been devised. There is nothing more perfect than the Greek exterior (Ill. 5) — consummate beauty of detail united with consummate beauty of the whole. As far as Greek architecture went, it succeeded entirely. It took a simple type of building and improved and refined it until absolutely all that was possible had been done. The force of man could go no farther. It is impossible to find anything to blame, any fault to criticize. And yet, when comparing the perfection of this Greek work with the imperfections of other styles, it should always be remembered that many of

[1] An open colonnade bordering streets, agoræ, etc. It consisted of two or more ranges of columns, supporting a roof.

[2] A monumental gateway.

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the problems with which later architects wrestled, far from being solved, were not even thought of, by the Greeks. If Greek architecture accomplished its task more perfectly than any of the subsequent styles, it had a much easier task to accomplish.

It should not be imagined, however, that Greek architecture is stereotyped, monotonous, or dull. If it confined itself to one type, within that type it knew how to introduce infinite variety. The changes wrought in such a detail as the curve of the Doric capital are little less than astounding by their number. Ill. 4 will give some slight idea of the many different varieties of plan the Greeks employed. The Greeks were always artists, and consequently free designers. New variations, new proportions, new refinements were ever being introduced. Greek architecture never for an instant stood still. It was characteristic of the Greek spirit as it was of the Gothic, frankly to meet necessity and to make it beautiful, at no matter what sacrifice of precedent or formal symmetry. Hence we have such entirely free treatments as the plan of the Erechtheion (Ill. 4, Fig. 4), the mixture of orders in the Propylæa (Ill. 4, Fig. 5), and other liberties of design no less striking.

Greek construction was based upon the principle of the lintel — a stone laid crosswise on two supporting members. It is obvious that very large spaces cannot be spanned in this manner — for aside from the difficulty of quarrying a lintel, say thirty feet long, no great wall can be built on top of it without risk of the superimposed weight breaking the lintel in the middle. Hence Greek buildings of any size were roofed with wood, covered externally with tiles. The arch and vault, while apparently known, were never used as architectural features.[1]

The stereotomy — stone cutting — of the Greeks is unequaled. Except where destroyed by violence Greek walls stand unimpaired to-day, so precise was the workmanship. This is the more remarkable in that they were constructed without mortar, which the Greeks never employed, though bronze clamps were sometimes used to fasten the stones in place. The fineness of the joints in the Parthenon was secured by slightly

[1] On the use of the arch and vault in the Hellenic period see G. Baldwin Brown, *From Schola to Cathedral*, p. 82, seq.

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hollowing-in the faces of the blocks that were to touch each other. Thus only the edges met and the great superincumbent weight forced them together in an almost imperceptible joint.

A passing glance must be given to Greek ornament, as it is a subject to which we shall have to recur again and again in future chapters. The Greeks maintained in ornament that same preëminence for refinement and variety that they displayed in the other arts. Perhaps the most pregnant of all Greek ornaments was the acanthus, whose leaves enfold the Corinthian capital (Ill. 3 *a*). These leaves in Greek work are of a "V" section, crisp and vigorous; while the lobes or eyes separating the groups of five petals are placed far out from the central stem, and do not divide the leaf into separate parts (Ill. 3, Fig. 9). Next in importance to the acanthus ranks the anthemion, found in myriad forms, one of the most exquisite of which is shown on the neckings of the capitals in Ill. 2. The anthemia themselves are separated by the five-petaled lotus flower (which may be considered another form of the same ornament), and the whole design is connected by spirals at the bottom. Ill. 2 also shows fine examples of the egg-and-dart (on the abaci of the capitals and elsewhere), the heartleaf (on the *cyma reversa* of the architrave), and the bead mouldings (on the volute of the capital seen in side elevation), — mouldings no less exquisite and fresh that our eyes are accustomed to the modern vulgarized forms of these ornaments. Their grace and beauty is self-evident in the Greek examples, and it is noteworthy how perfectly the shape of the ornament expresses the curve of the moulding. Ill. 3, Figs. 1–4 shows a series of frets, which, although differing widely, are easily recognized as different forms of the same motive. It will also be seen that the Vitruvian scroll (Fig. 8) is related to this ornament, for if we should round all the square corners of Fig. 4, we should have something very closely resembling Fig. 8. Perhaps the most puzzling, but also one of the most important of Greek ornaments is the guilloche. Its simplest form is shown in Fig. 5. Figs. 6 and 7 are more complicated variants. It may always be recognized by its interlacing bands, which cross each other alternately above and below.

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ILL. 5. — The Theseion, Athens. (From a Carbon by Braun Clement & Cie.)

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Such, in outline, was Greek architecture, and such the forms it bequeathed to the later builders. Modest in its attempts, never attacking the really great problems of construction, it still erected buildings entirely suitable for the needs of the time and adorned with a refinement and beauty of detail the world has not equaled in twenty-four centuries. It is essentially an external architecture, where the interior effect was largely a matter of indifference, an architecture where utilitarian considerations were of little weight; where the beauty, not the use, of a building was its main *raison d'être;* where, in short, was voiced the spirit of a people who were artists, but not engineers.

The Romans, on the other hand, were primarily engineers. A people eminently warlike and practical, their contributions to human progress have ever lain in the direction of science, rather than of art; in the working out of organization in law and government, in the construction of roads and aqueducts, in the civilizing of barbarian countries, rather than in the creation of masterpieces of sculpture, literature, or architecture. What arts the Romans had were of late birth, coming into being only long after the military dominion of the republic had been established. Hence Roman art has a ready-made, exotic quality; it lacks originality, and is, in fact, little more than an adaptation of Greek models to suit the pomposity and vulgarity of Roman taste. Under Rome, magnificence was substituted for refinement; Virgil succeeded Homer; Seneca, Sophocles; the sculptors of the I century, Phidias and Praxiteles.

In architecture, however, the practical turn of the Roman mind was able to accomplish what it was unable to do in the case of the more abstract arts. Besides imitating the Greek, it added certain new and original features of its own. These innovations all lay in the direction of construction; but architectural construction, the practical Romans developed to a point far in advance of any that had hitherto been reached.

The principle of the arch had been long understood; — exactly who first discovered it will probably never be known —

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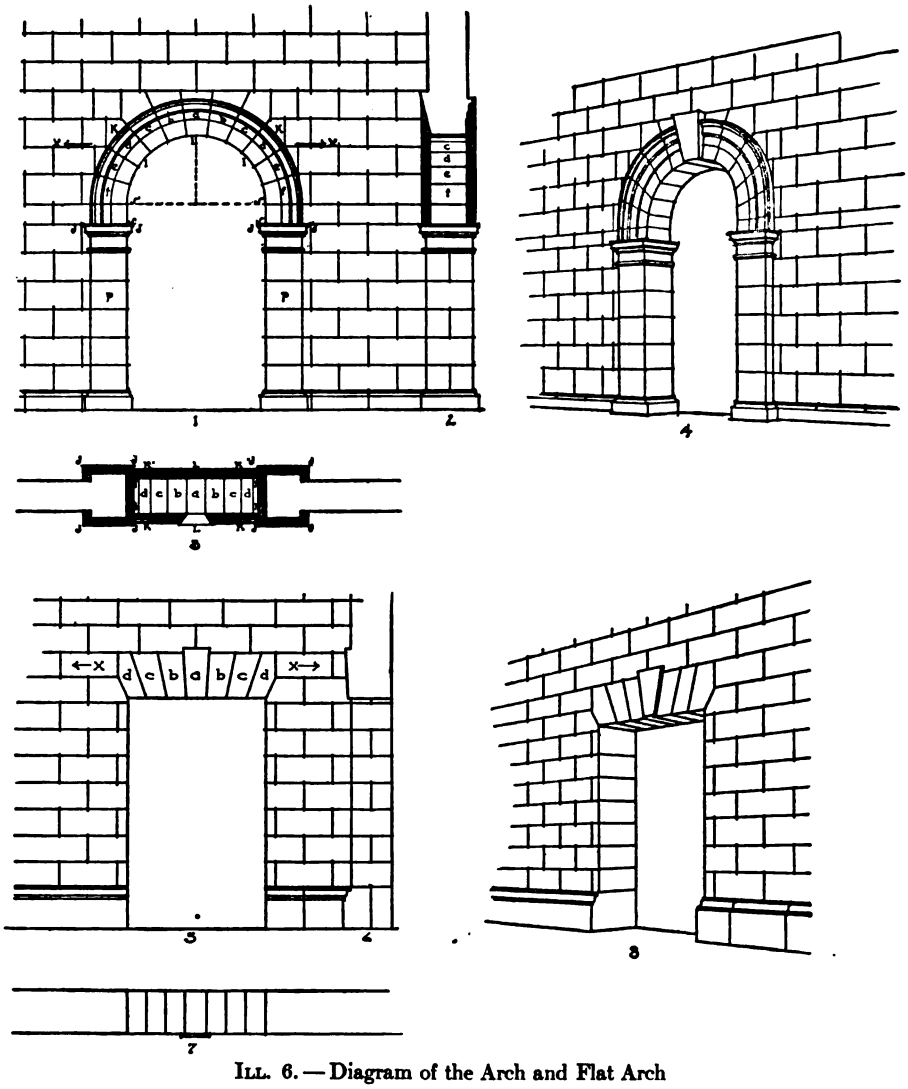
but there is no doubt that its use goes back to remote antiquity.[1] The Romans, however, were the first to treat it architecturally. The arch in its simplest form is merely a device for spanning an



Ill. 6. — Diagram of the Arch and Flat Arch

opening by means of several blocks of stone, when for any reason it is undesirable to employ a lintel or a wooden construction. From the illustration (Ill. 6) it will be seen that these blocks,

[1] The arch at Bet Khallâf, Egypt (xxx century B.C.), is the earliest dated example I know.

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or voussoirs, as they are called, — *a*, *b*, *c*, *d*, — are fitted in such a manner that the central voussoir (the keystone, *a*) cannot fall to the ground without first shoving to one side the adjacent voussoir *b*. *B* in its turn tends to push out *c*, and so the force which at *a* had been merely dead weight, pressing straight towards the ground, is changed in direction, and at *x* becomes a side *thrust*, tending to disrupt the arch laterally, in the direction indicated by the arrow. If, then, a heavy mass of masonry be built against the arch at the point *x*, so as to prevent the voussoirs *c* and *d* from being forced out laterally, an almost unlimited weight may be safely superimposed on the arch, for the keystone *a* cannot fall, except the weight be great enough to actually crush and disintegrate the stone. This placing of masonry at the point *x* — the *haunch* of the arch — is called *buttressing*.

An arch is usually constructed by means of a wooden mould — called a centering — whose outer face corresponds with the under side — the soffit, or *intrados*, *i* — of the arch. On this centering are laid the voussoirs. When the keystone is in place, the arch becomes self-supporting and the centering is removed.[1] An arch is usually ornamented by a series of mouldings, *k*, following the intrados, and called the *archivolt*. The heavy horizontal moulding (*jj*) around the piers (*pp*) is called the *impost*. It is usual to place the beginning of the curved portion of the intrados, or the arch proper, above the impost. The vertical portion of the intrados (*ss*) between the impost and the beginning of the arch, is then called the *stilt*. The highest point *l* of the intrados is known as the *crown* of the arch.

The characteristic form of the Roman arch was semicircular, but it was sometimes flattened into an elliptical form, or even into the flat arch (Fig. 5–8). The higher the crown of the arch the less its thrust, — a fact which was turned to good account in the pointed arch of Gothic architecture, since this pointed form has the greatest height and consequently the minimum possible thrust. By the same principle the flat arch (Fig. 5) gives the maximum thrust. This objectionable construc-

[1] There are devices (employed especially by the Byzantine builders) for constructing arches and vaults without centering.

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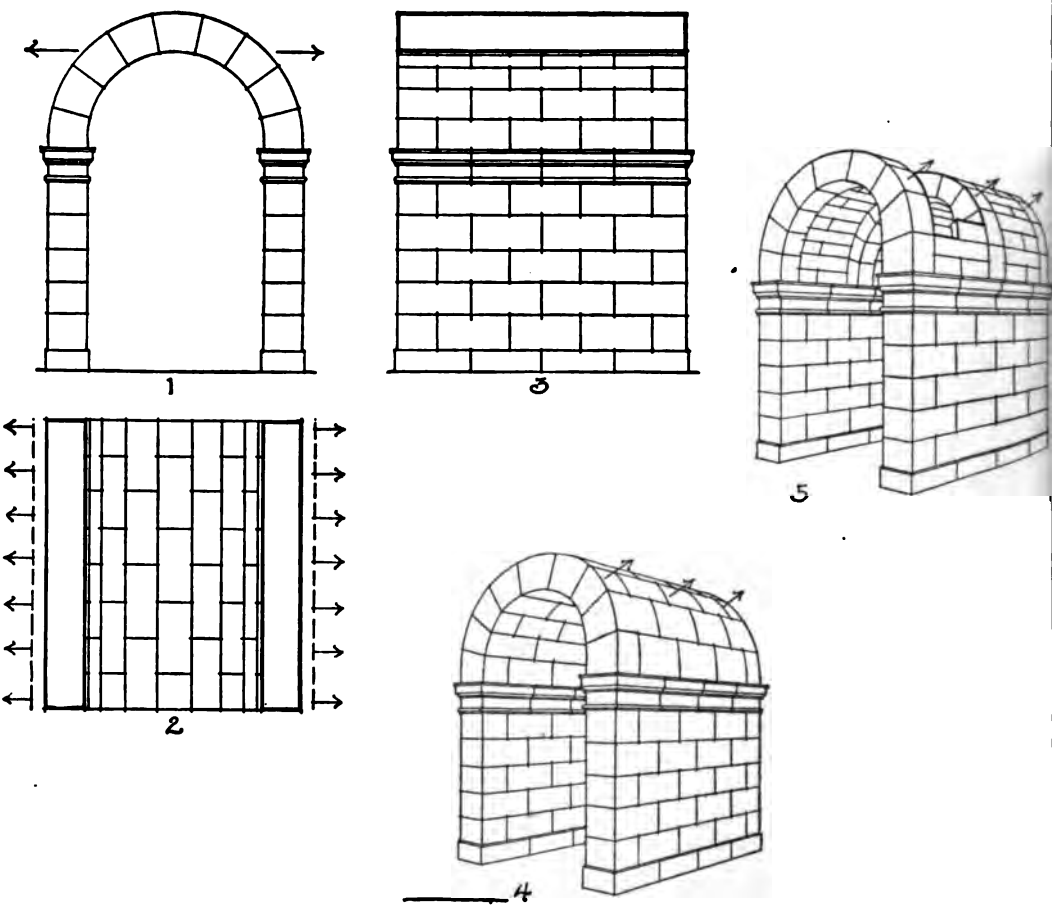
tion has been used in ancient and modern times in cases where it is desired to give the lintel effect in spaces too wide to be conveniently spanned by a single block. In these cases, however, the thrust is commonly so great that either the superimposed weight must be eased by a concealed relieving arch built in the



Ill. 7. — Diagram of the Barrel Vault

wall above the flat arch, — when the flat arch becomes a mere sham and economic waste, accomplishing no work at all — or else iron tie-rods must be inserted in the stones, forming false construction of the most flagrant type.[1] Occasionally the flat arch was used, apparently from mere caprice, in spans

[1] The discredit of the latter method rests, I believe, wholly with modern times.

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which could be covered with a lintel quite as well. A converse case we shall study later in Syria, where in Christian times it became the fashion to carve a lintel in a circular form so as to give the appearance of an arch.

It is an Arab proverb that "the arch never sleeps." The thrust may be adequately buttressed, but it still exists; and if through decay the strength of the buttress be weakened, the arch is always ready to push out its haunches. The invention of the arch thus brought into architecture a new and important element. The Greek architects had only horizontal and vertical forces to consider, dead weights and the strength of the supports that must bear them, a comparatively easy problem, and one that, perhaps, they never attempted to solve accurately. The Romans in introducing the arch created the new and much more complicated question of lateral thrusts. Architects had thereafter to consider not only the tendency of buildings to fall downwards, but also their tendency to burst outwards. The calculation and overcoming of these lateral thrusts is a mechanical and engineering problem of the utmost difficulty and one which, from the time of Rome to this day, has absorbed the energies of builders, with what splendid results we shall see in the chapters on Gothic. And yet, even to-day, the mathematics of this elusive problem cannot be said to be completely understood.

From the arch to the vault, the step is easy. A builder who wished to set an arch in a wall so thick that a single set of voussoirs could not conveniently be made to penetrate its width, might build two arches side by side. The construction would obviously be strengthened by interlocking the voussoirs of the two arches — that is, placing the vertical joints in such a way that they would not come directly over each other, thus avoiding the formation of a continuous crack between the arches. This process continued, the arch being made constantly thicker, will give the *barrel vault* (Ill. 7 and Ill. 7*a*).

The barrel vault may be constructed with a complete centering, in precisely the same manner as the arch. Such a process is expensive for a large vault, say one hundred feet long, as it would require a centering also one hundred feet long. The

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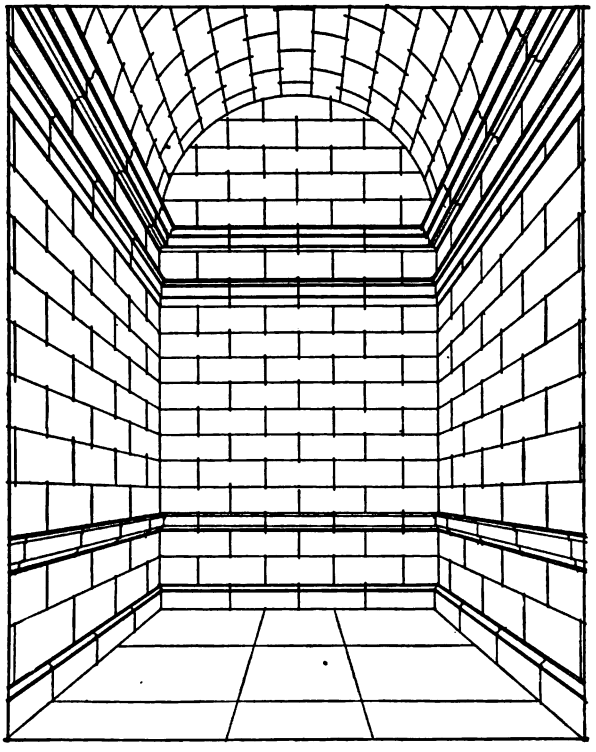
thrifty Romans accordingly devised the scheme shown in Ill. 8 and Ill. 7, Fig. 5. Along the space to be vaulted, at convenient intervals, arches — called ribs — were erected. These arches were all of the same size, and the same centering could be used for all, being moved to the next after each in turn had been completed. Then using the arches already erected as centering,



Ill. 7*a*. — Perspective of the Barrel Vault

intermediate arches were sprung, covering the space between the original arches, on whose edges they rested.

If the introduction of the principle of the arch was an advance of grave significance, the vault which followed as a necessary corollary was destined to bear in the future even a richer harvest. It now became possible to treat the interior with far greater dignity than had ever before been accorded it. Larger spaces were spanned and this without the aid of intermediate supports. This increase in the size of rooms was well suited

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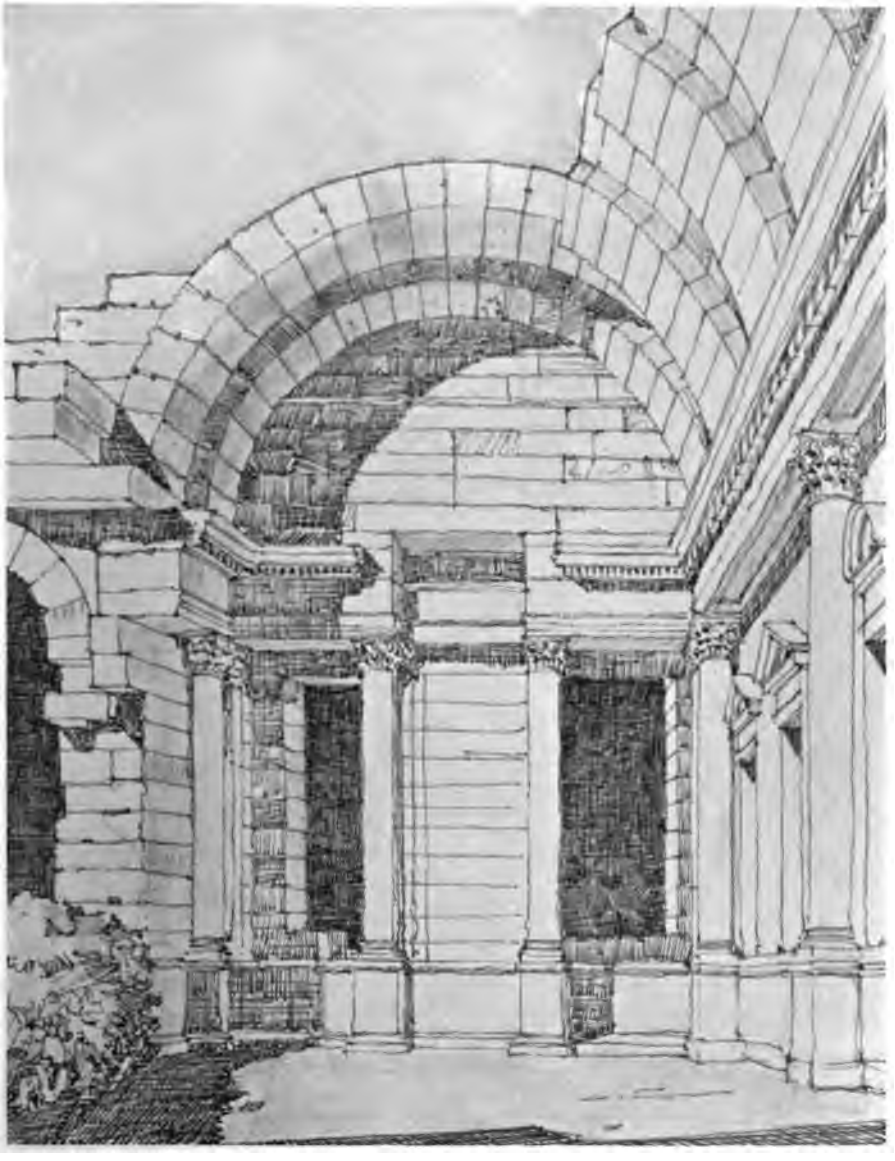

ILL. 8. — Perspective of the Interior of the Temple of Diana, Nîmes, by F. B. Warren

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to the grandiose and monumental tendencies of Roman art, while the vault itself was capable of more sumptuous and imposing treatment than a wooden roof. Thus it came about that the interior gradually assumed greater and greater importance until in interest it far surpassed the exterior.[1] In time the latter came to be even neglected. Perhaps the most vital architectural change wrought by the Romans was this transformation of the external architecture of the Greeks into the internal architecture of the Middle Ages.[2]

But with all its advantages, the barrel vault still offered several drawbacks. In appearance it was little more, after all, than a tunnel (Ill. 7*a*), heavy and gloomy, its surface unrelieved by play of light or shade. It could be lighted only at the extreme ends by windows (called *lunettes*) comparatively small, even if occupying the entire wall space. But, greatest drawback of all, being nothing but an exaggerated arch, it required heavy buttressing its entire length — *its thrust was continuous.* This made it an expensive and cumbrous construction. All of these difficulties were obviated by the invention of the groin vault (Ill. 9, 10).

A groin vault consists of two barrel vaults, of equal size, intersecting at right angles. The lines of intersection are called the groins. There are four of these groins, each pair forming, as is evident from the figure, a complete arch in itself. The Romans frequently constructed groin vaults with a complete centering; in certain instances,[3] however, they employed a new method of building which is of the greatest importance as foreshadowing the medieval rib vault. The groins themselves were erected first as complete and self-sustaining arches. Assuming the vaults to be semicircular, it is evident that each pair of groins will form an arch slightly elliptical. The two arches will be at right angles to each other, and will have a common keystone. After these arches have been constructed, a

[1] The Romans did not live out-of-doors nearly to the extent that the Greeks had done.

[2] Another important result of the vault was the fact that it made possible fire-proof construction.

[3] *E.g.*, the Palatine, the Arch of Janus Quadrifrons, and the Thermæ of Diocletian and Caracalla. When concealed ribs were employed I believe the remainder of the vault was always filled in with rubble or concrete, and not with cut stone.

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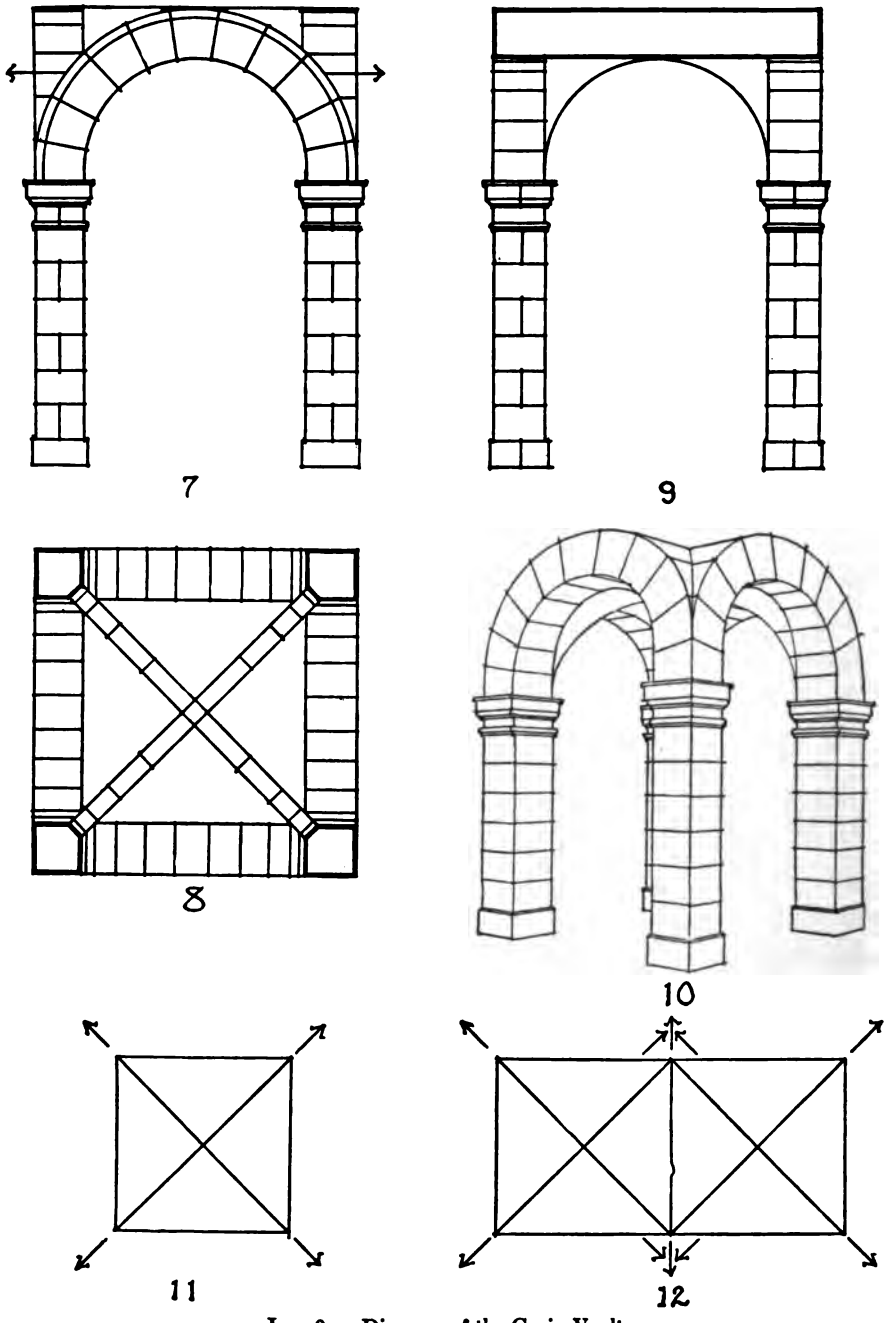

ILL. 9. — Diagram of the Groin Vault

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centering of the desired form may be placed beneath and touching the groins, and a vault built thereon in a manner precisely similar to the procedure in the case of a barrel vault. This vault would be carried from the keystone in all four directions, being bounded by the groins. The groins, as complete arches, will be fully capable of sustaining the weight of the vault, whatever tendency there might be of the vault on one side to push the arch sideways being exactly counterbalanced by the converse thrust of the vault on the other side. Thus the entire weight and thrust of the vault is gathered on the four groins; and the groins being arches will, by the principle of the arch, transmit all the weight they have received from the vault, and discharge it as a thrust at a single point on each of their four haunches. That is, the thrust of a groin vault, instead of being continuous like that of a barrel vault, is concentrated at four isolated points, and consequently requires buttressing only at those points. The arrows in the figure roughly indicate the direction of these thrusts.

The groin vault, as we have been considering it, is limited to a plan either nearly square, or in the form of a cross, when the vault is continued over the arms as a barrel vault. It was so useful, however, in offering isolated thrusts, and in allowing light from four lunettes instead of two, that it was not long before a method was found of adapting it to a rectangular plan. This was accomplished by dividing the long side of the space to be vaulted into any number of divisions, each equal to the width of the space. A groin vault was then erected over each square so formed. Since the vaults thus adjoined, each counterbalanced its neighbor's longitudinal thrust, and the net result was a thrust directly at right angles to the axis of the building, at the point where the two vaults came together (Ill. 9, Fig. 12). This thrust was easily buttressed.

The groin vault as thus applied became not only the form of vault most employed by the Romans, but the one which primarily influenced medieval architecture. It allowed of abundant lighting, each section of the vault permitting the introduction of two lunettes in addition to the two at the ends of the series of vaults. The one great drawback it shared in common with

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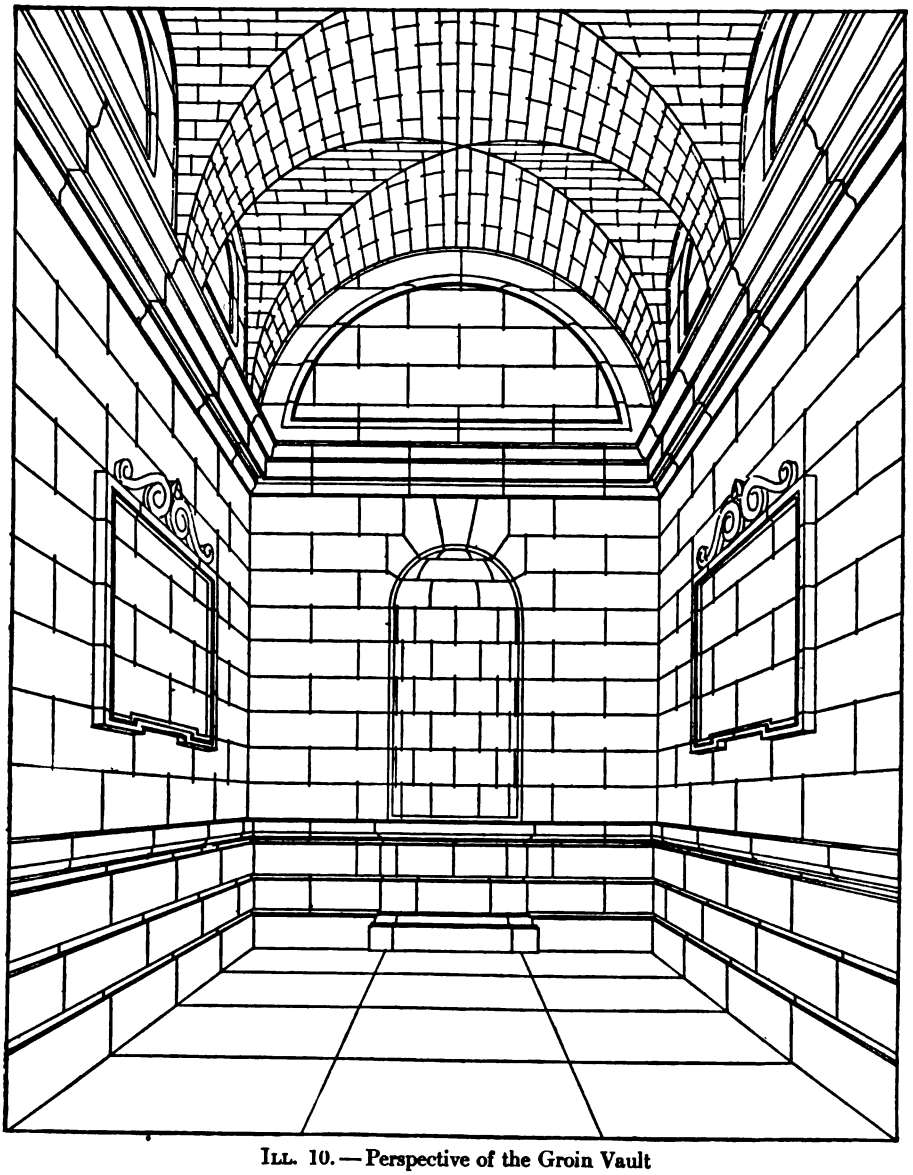

ILL. 10. — Perspective of the Groin Vault

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all Roman vaults was its lack of flexibility. As long as the length of the hall to be vaulted was nearly commensurable with its width, the scheme worked very well; but when this condition did not exist, the construction became awkward.

We have considered the groin vault as formed by the intersection of two equal barrel vaults, meeting at right angles, with the pieces of the vaults within the intersections removed. Now, if we should retain these pieces of the vault, and cut out the rest of the barrel vaults — that is, the exterior parts used in the formation of the groin vault, — it is obvious the result would be a four-sided vault on a square plan. The exact nature of this vault, known as the cloistered vault, will be evident on reference to the figure (Ill. 11).[1] It approaches in character much more closely the barrel vault, from which it is derived, than the groin vault, which it resembles superficially. Its thrusts are continuous, not localized; and it requires continuous buttresses. The cloistered vault is the most difficult of all vaults to light, since it is impossible to introduce windows except as penetrations — a device, I believe, seldom or never practised by the ancients. It is, however, slightly more economical to build than a barrel vault, and in certain cases is more pleasing.[2]

The cloistered vault can be constructed on a polygonal, quite as well as on a square, plan. Now, if we conceive the number of sides to be infinitely increased, we shall arrive at a circular plan and the vault will become a dome. The dome, however, offers one very striking peculiarity, in which it differs from the cloistered vault to which it seems so nearly akin, and, in fact, from all other vaults. Every vault we have so far studied depends for its stability on the principle of the arch, since a keystone is required to hold the whole in place. In the dome, on the other hand, each course is complete and self-sustaining in itself. As will be seen from Ill. 12, Fig. 8, the stone courses, as in all vaults, incline towards the center. The tendency, then, of each stone is to fall inwards. But when a course is

[1] I know of no Roman example of the cloistered vault. It is, however, prominent in Christian Syria.

[2] The cloistered vault has found its chief use in connection with the barrel vault in Renaissance and modern times.

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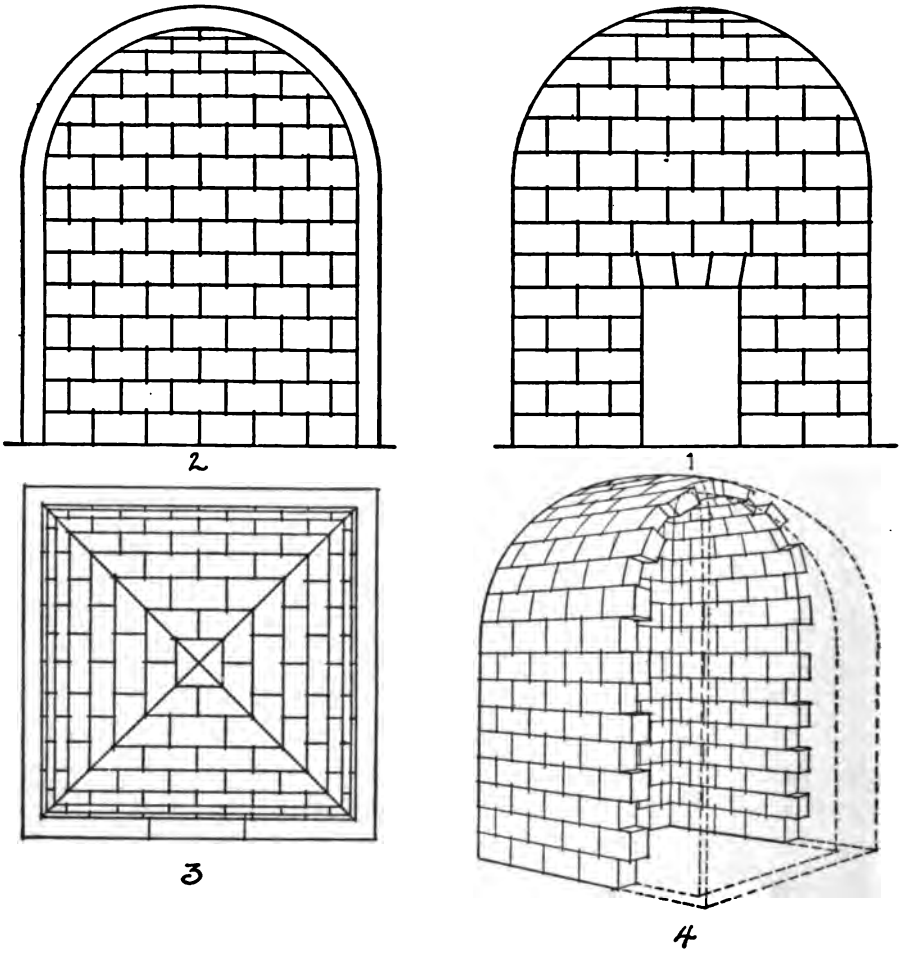
finished, and forms a complete circle, each stone is locked in its position, and held by its fellows against which it is fitted. Thus each stone of a dome is in effect a keystone, and the dome will be self-supporting at every complete course, and may be



ILL. 11. — The Cloistered Vault, Diagram

there terminated. This important fact allows the introduction in the center of a dome of a window [1] of any size desired, and makes it the most easily lighted of all vaults. It also simplifies the construction, as only a centering sufficient for one course need be erected at a time.

[1] Known as a *lantern*.

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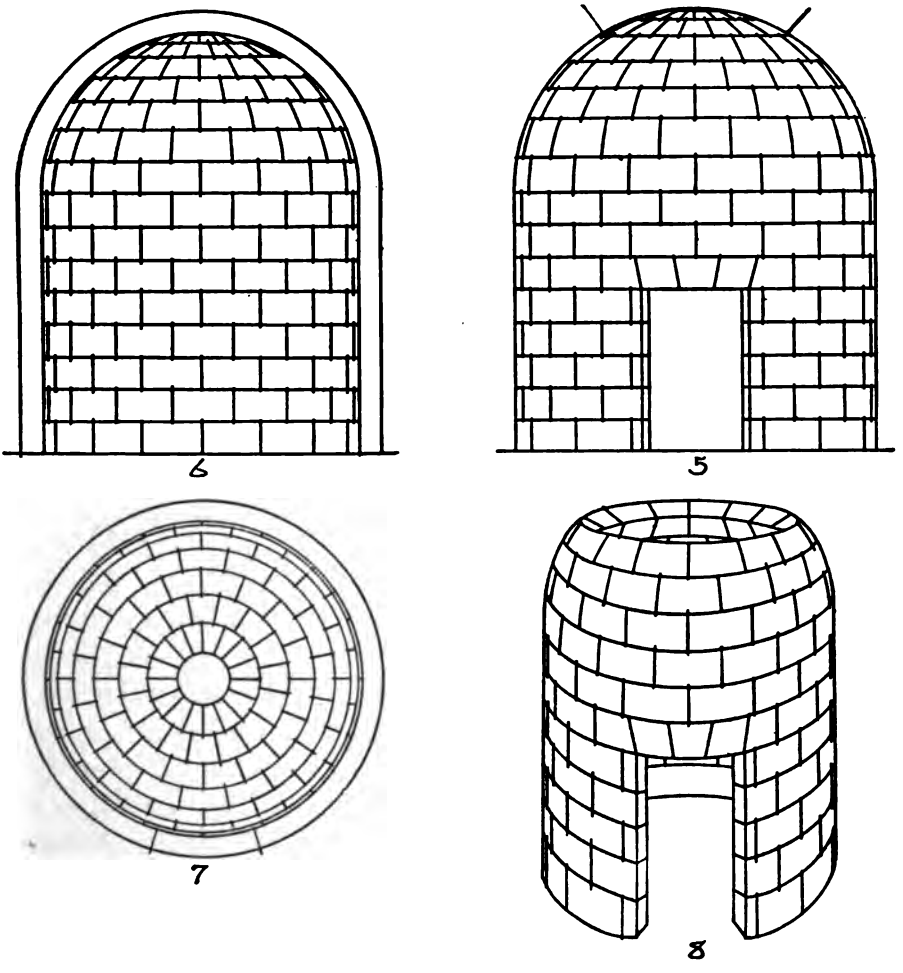
In other respects the dome resembles the cloistered vault. Since the thrust is continuous and at its haunches, a continuous buttressing is required at that point (Ill. 13). The dome partakes of the nature of the arch, and of all vaults, in that the



Ill. 12. — Diagram of the Dome

flatter its line of curvature, the greater its thrust. Just as the arch, for esthetic reasons, is usually stilted, the dome is commonly raised on a cylinder, known as the *drum*.

Thus far we have been considering all vaults as formed by cut blocks of stone. The Romans made much use of masonry in their building, and constructed the different kinds of vaults,

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when they wished, with splendid stereotomy; but they also employed extensively a sort of rubble construction. This consisted of irregular stones, bricks, or even pebbles, laid on at haphazard and held in place by a peculiar sort of cement, poured in on top of them and allowed to harden. This Roman cement was much more powerful than any used to-day, being more like concrete than any other substance we know. When hardened it was often stronger than the stone itself. In Italy vaults were usually built in this manner. In a groin vault only the groins were constructed of cut stone or brick. The adhesion of the cement forms the whole vault into one solid block, as it were, and as the thrust of an arch is produced by the tendency of the separate blocks to slip on their joints, the thrust in a vault of this kind is almost entirely eliminated, and the vault rests on the walls, as the cover does on a pot, without exerting lateral pressure.

Such were the structural innovations introduced by the Romans — principles of the most far-reaching results in the history of architecture. In no form of vault, nevertheless, did the Romans say the last word. It was reserved for future ages to show of what glorious developments the dome, the groin vault, and even the barrel vault, were capable. But the credit of first applying these vital principles to architecture, of perceiving though dimly the esthetic and practical uses of which they were capable, is all due to Rome. No other structural invention of architectural history can outrank in importance this — not the pendentives of Hagia Sophia, nor even the discoveries of XII century France. For the vault we owe to Rome unqualified admiration and gratitude.

Unfortunately, no such unstinted praise can be given the architectural ornament of the Romans. After the IV century, B.C., Greek architecture underwent a decline. As time went on, this decline became more and more precipitate, until in the I century, B.C., the art, especially in Asia Minor, had sunk to the lowest depth of debasement. The technical execution still remained fair, but design deserted entirely the severe and thoughtful taste of earlier times, and ran riot in every conceivable extravagance of florid ornament. Typical of the change

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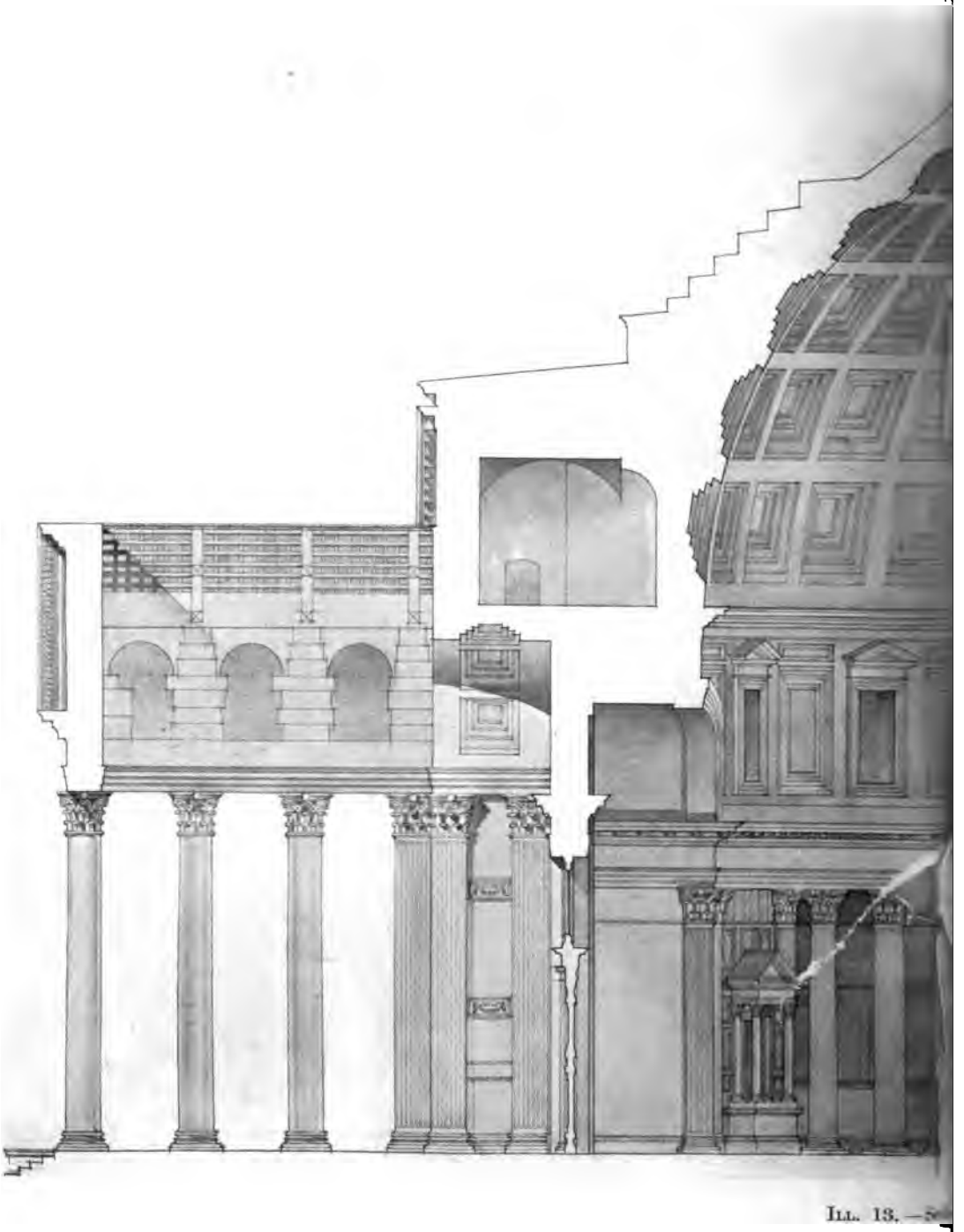

Ill. 13. —S

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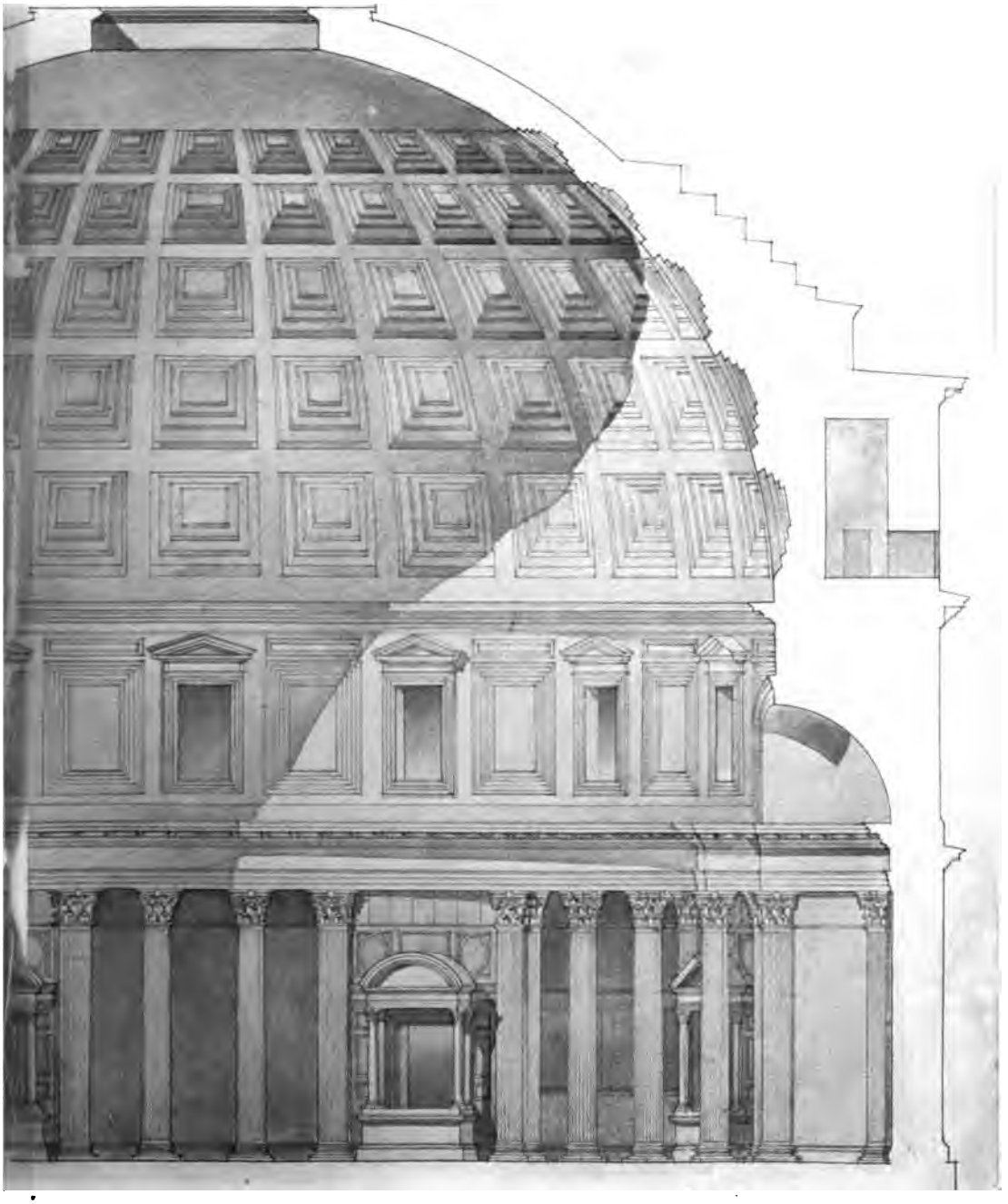

antheon, Rome

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was the ever-growing taste for colossal edifices. Temples of unheard-of size were erected, and those colonnaded streets, miles in length, which later became so typical of Roman Syria, were first laid out. In short, for refinement and delicacy, was substituted coarseness and display.

Now the architects of imperial Rome, in adopting Greek ornament, adopted it not from the pure examples of the V century, but from the late debased types of Asia Minor. The Romans are usually accused of debasing those types still further; as a matter of fact, however, the worst examples of Asia Minor are practically indistinguishable from Roman work. These forms the Romans fixed into a cut-and-dried canon from which minor variations were possible, but no real progress.

The orders became the basis of all architectural ornamentation. Columns, originally mere utilitarian props, had been happily developed by the artistic Greeks into features combining in a perfectly consistent whole ornamental and constructive functions; the Romans made them almost wholly decorative. After the building was built, the columns were applied as a surface decoration — either in the form of free-standing porticoes or peristyles, or, more frequently, as an engaged order built into the wall. These engaged orders were used very often to decorate an arcade — *i.e.*, a series of arches (Ill. 14). This arrangement is known as a Roman arcade.

Much philosophical discussion has arisen among critics as to the propriety of this and similar uses of the orders. It has been contended that it is essentially false and wrong, in that the columns, being a supporting member, appear to carry the entablature, whereas in reality they do not, both being merely gratuitous ornaments applied to the wall surface. To this it has been replied that in such a use of the orders the Romans have only adopted a principle dominant everywhere in the history of art; — a principle by which forms at first structural are made at last purely decorative, as witness the triglyphs of the Greek Doric, originally beam ends, or the open work gables of the later Gothic. It has been urged that if the Roman arcade is to be condemned for this, condemned also must be almost every work of architecture that has ever been erected.

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Structural truth and frankness, however, are perhaps the leading canons of architectural criticism, and it is much better to over-, than under-estimate their importance. Still all set canons of criticism are dangerous, and the final test in all cases must be the esthetic result.

Of this, in the case of the Roman arcade, it is difficult to understand how so great a difference of opinion as prevails to-day can exist. Nothing that human art has devised is more dreary, monotonous, and uninteresting than the Roman orders. The lack of congruity between the trabeated ornament and the arched construction, if pardoned philosophically, is unpardonable artistically. The depraved taste of modern times has repeated this, with other Roman vulgarities so often, that our eyes have become accustomed to its defects, just as with certain well-known masterpieces of literature, commonplaces or even serious faults have become glorified into charms by sheer force of familiarity. Yet, when our eyes have been refreshed by the study of the purer forms of Greek or medieval architecture, the Roman designs at once appear in their true vulgarity.[1]

The Roman Doric (Ill. 14) it will be at once seen, has undergone a sea-change, from the order of the Parthenon (Ill. 1). All the refinements of detail have been eliminated; the hyperbolas, the parabolas, and the ellipses of the profiles have been supplanted by commonplace segments of circles; the subtle hyperbolic echinus has become a plain quarter-round; the carefully worked-out entasis curve has become an ugly broken line, of two straight parts, vertical about one-third of the height of the column, sloping inward the remaining distance. The capital has been supplied with a necking, which it did not in the least need, and the shaft has been placed on a base. The

[1] In this connection it is worth while to remark a widely circulated error, to the effect that the Greeks never used an engaged order, or at least very seldom. On the contrary, engaged orders are of common, even frequent, occurrence. There is, however, this very great distinction to be noticed between the engaged orders of the Greeks, and those of the Romans. The Greeks of the best period never employed them as a wholesale and promiscuous ornament. They were used with propriety and moderation, and always for some good reason: because the intercolumniation was too great to span safely by a single lintel, as in the Zeus Temple at Girgenti; for the sake of symmetry to balance a free-standing portico, as in the Erechtheion; to form a respond for free-standing columns; and for other logical reasons, but never as pure ornament.

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ILL. 14. — Restoration of Façade of Basilica Julia, Rome, by Covell

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ILL. 15. — Ionic order of the Temple of Fortuna Virilis, Rome

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example we reproduce (Ill. 14), one of the best extant Doric orders of Rome, is a sufficient commentary on the decline of taste in Roman work.[1]

The Ionic order (Ill. 15) shows the same general debasement, which need not be described in detail. The cushion of the capital is carried straight across, instead of sagging in graceful curves, as of yore. The base has a plinth. The Romans in their constant use of the order found themselves much embarrassed by the old difficulty of turning a corner because of the awkward difference between the front and side elevations of the Ionic capital. The Greeks had met the difficulty by bending out one volute of the corner capital as shown in the small order of Ill. 2. The Romans "improved" on this by bending out all four corners of all the capitals. This arrangement was so common in Rome that it is known as the Roman Ionic.

The Romans have been given much more credit — or discredit — than they deserve, for the invention of the Corinthian order. The Corinthian order developed out of the Ionic, and although we have few examples of its use in Greece, there can be no doubt that it was there perfected. Capitals pilfered from the Temple of Jupiter Olympus, at Athens, were brought to Rome by Sulla, and are believed to have furnished the model from which all subsequent Roman capitals were formed.[2] The essential design of the capital the Romans seem to have altered little.

The most characteristic change they appear to have wrought was in the carving of the acanthus-leaves. The crisp, strong

[1] A significant difference between the Greek and Roman Doric is in the treatment of the triglyph on the corner. The triglyph normally occurs over the axis of the column. On the corners this leaves an awkward segment of a metope. The Greeks turned the difficulty into an added grace by placing the triglyph at its normal distance on the corner. The column was then moved slightly off the axis of the triglyph, making the last bay somewhat smaller, and giving buoyancy and strength to the design. See Ill. 1. The Romans, on the other hand, made all the intercolumniations equal, and terminated the frieze with the awkward segment of the metope, the triglyph being always placed on the axis of the column (Ill. 14). The problem was finally solved (according to the Roman and Renaissance point of view) by Sansovino in the XVI century in the Library of St. Mark's, Venice. Here, by coupling a column and a pilaster at the corner, the frieze was ended by exactly half a metope. (See Moore, *Character of Renaissance Architecture*, N. Y., 1905, p. 211.)

[2] This conventional view is open to serious question. With all the models Greece must have afforded, it seems indeed strange that the Romans should have learned the Corinthian order through only one channel.

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form of the Greek leaf already described (Ill. 3 *a*) was changed under the Romans to a languid, drooping form (Ill. 16, 17), and the eyes separating the different lobes were brought in close to the center vein. The Romans also made still more florid the entablature, especially by the addition of modillions,[1] — a form which probably originated in the carving of ornament upon the dentils. As the modillions developed into forms very different from the original dentils, it occurred to some genius to clap both dentils and modillions on the same entablature (Ill. 18).

The Corinthian order best expressed the Roman taste for magnificence and ostentation, and was in consequence almost universally adopted, the less blatant orders being largely crowded out. It was occasionally varied by the carving of animals, grotesques, etc., to take the place of the volutes or fleurons[2] on the capitals; but as it had already reached the extreme of pomposity and pretentiousness, the Romans seem to have felt it was capable of no further development. In the three centuries it flourished there was no trace of growth, or consistent change.

It was the old theory, that the Romans invented the Composite order, by uniting the Corinthian and Ionic, and "thus combining the beauties of both." Of such an enormity, however, not even the Romans seem to have been capable, and the Composite order, though of late introduction,[3] undoubtedly is derived from Greek prototypes. We know that the Corinthian order was evolved from the Ionic, by the substitution of a row of acanthus-leaves for the anthemion necking seen in such capitals as those of the Erechtheion (Ill. 2). In the course of evolution a form very similar to the Composite capital must have been passed through, although no example of this has come down to us.[4] This intermediate form the Romans adopted to make a new order; how much they changed it, it is, of course,

[1] There is, I believe, no Greek example of modillions. It is not always safe, however, to conclude the Greeks did not use a form, simply because no example of it is extant.

[2] The fleuron is the ornament placed in the center of each face of the capital, midway between the two volutes.

[3] I know of no instances of its use in Rome earlier than the Arch of Titus.

[4] A Composite capital has been found in the Temple of Zeus at Aizani — unfortunately there is no exact indication of date.

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ILL. 16. — Corinthian Capital of the Pantheon, Rome. (From D'Espouy)

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ILL. 17. — Corinthian Pilaster of the Portico of Octavia, Rome. (From a French Drawing)

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impossible to tell. The entablature does not differ essentially from that of the Corinthian order. The Romans seem to have been aware of the drawbacks of this, the ugliest of all the capitals, and to have used it sparingly. However, it persisted with curious vitality throughout the Middle Ages (Ill. 19).

Such were the Roman orders. Their non-structural use as mere ornament has already been insisted upon; but several curious vagaries which followed as a consequence of this use have yet to be mentioned. Among these, one of the most characteristic was the placing of pedestals below the columns (Ill. 15, 31). These gratuitous additions have, of course, no structural significance, but are merely employed to give the design pleasanter proportions and rhythm — a purely decorative aim which, it must be confessed, they often accomplish with entire success.

Similar non-structural members were pilasters (Ill. 17, 28) which, in fact, consisted merely of rectangular strips applied to the wall surface. They were furnished with capitals and bases similar to those of the columns; the shaft was commonly fluted; and, in short, the member was treated precisely as an engaged order. The proportions differed from those of columns chiefly in that, as a rule, the shaft of the pilaster had no entasis — a fact which possibly betrays its origin in the Greek anta. In one respect a pilaster enjoys a great advantage over an engaged column. A half column is unpleasant, and not often used. A three-quarter column causes a very wide projection of the architrave in the inter-columniations, thus causing too heavy a line of shadow. This may be appreciated from a glance at the drawings (Ill. 15 and 8) where, even when half columns are employed, the projection of the architrave will at once be felt to be too great. The only way in which this difficulty could be avoided was to *break back* the entablature over each column; — a device much employed in Roman architecture. Each break is called a *ressaut*. To my mind, this constant breaking of the entablature forms one of the most trying features of the entire system of imperial ornament. It weakens the design by destroying the horizontal lines, and substituting for them an unpleasant and restless zigzag (Ill. 28). When pilasters were

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used this treatment was not necessary, for the projection could be made as slight as the architect wished. So enamoured, however, had the Romans become of the broken entablature that they usually employed it even with pilasters, thus ignoring the chief advantage of the latter feature. This is done, for example, in the amphitheater at Nîmes (Ill. 28).

A similar spirit is shown in the design of pediments, which, being treated as merely ornamental features, were often made round instead of triangular, since they no longer expressed the shape of the roof; or, most absurd of all, were broken in two and some ornamental feature placed in the center.[1] The Roman architects seem to have most fully realized their ideals of the use of the orders, when, in a composition like the rock-cut tombs of Petra, or the proscenium of a theater (Ill. 30), they could eliminate all ideas of reason and propriety, and cover the entire wall space with a confused agglomeration of architectural fragments: columns, pedestals, entablatures, pediments within pediments, niches and statues, piled in without the slightest thought of logic or structure, and made gorgeous with gilt and many-colored marbles.

From this it must not be understood that Roman ornament never attained a certain degree of elegance. The technique, if thoughtless, was often extremely facile. In the best examples at Rome, and especially in the arch at St. Remi, in France, the ornament, though in itself, perhaps, not beyond reproach, is sufficiently small in scale to produce that effect of richness which any small ornament will give when copiously applied to a large surface. Then, too, such ornaments as the Greek egg-and-dart or heartleaf mouldings are too exquisite to lose all their charm, even under Roman debasement.

The pure ornament of the Romans, as may be seen from the order plates, especially Ill. 15 and 18, was as nearly a reproduction of the Greek, as the Romans could make. Egg-and-darts, heartleaves, anthemia, frets, guilloches, and other motives still survived in but slightly changed form.

[1] See the Tombs at Petra, for example. It should be said in fairness, however, the Romans never carried this freak of design to the extent that has been done in modern and Renaissance times.

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ILL. 18. — Entablature of the Temple of Castor, Rome, by Covell

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ILL. 19. — Composite Order of the Arch of Titus, Rome

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ILL. 20. — Rinceau of the Temple of the Sun, Rome. (From a French Drawing)

ILL. 21. — Frieze of the Forum of Nerva, Rome. (From a French Drawing)

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Several motives which first became prominent in Roman times are usually credited to the invention of the imperial architects, although they are clearly adopted from Greek prototypes. Of these the most important is the rinceau (Ill. 20). An ornament very similar had been used by the later Greeks as a cyma decoration, and has come down to us in numerous examples found especially in Asia Minor. In all of these that I know the ornament is interrupted at intervals by lions' heads through which the rain-water from the roof was discharged. But it is a very short step to omit the lions' heads and join the acanthus stems. The movement of this ornament, notwithstanding its florid foliage, is fine. The Romans employed it constantly to decorate the frieze of the Corinthian order, and elsewhere as well; and no ornament of antiquity has more powerfully influenced the art of the Middle Ages.

Two other characteristically Roman ornaments were used to decorate the more elaborate orders: the first (Ill. 21) which was employed especially to enrich the Corinthian frieze, consisted of free combinations of various semi-conventionalized objects — vases, grotesques, genii, acanthus-leaves, etc.; the second, which was composed of carved skulls, draped with festoons of fruit or flowers, usually adorned the metopes of the Doric order. (Examples may be seen on the frieze of the Temple of Mater Matuta, Ill. 23.) Sometimes either skulls or festoons are found separately — (half a skull may be seen to the extreme right of the frieze of the Temple of Fortuna Virilis, Ill. 15). The ornament is evidently a direct imitation in stone of the heads of victims nailed on the exterior of a temple. The recent discovery of an example of this ornament on the Arsinoeion at Samothrace, dating from the III century, B.C. [1] has shown that the Romans derived this motive also from Greece.

Perhaps the root of evil in Roman architecture was its wholesale character. The Romans were too pushing and "progressive" to endure patiently the long delays necessary for the highest

[1] Conze. The same ornament also occurs on the Ptolomeion, built by Ptolemy II, and the proto-rinceau on the Doric hexastyle temple, all of Samothrace.

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artistic perfection, even had they been capable of appreciating it when produced. Quantity, not quality, was their ideal, and, when in the Augustan age they first turned their hand to covering the then known world with monuments of their conquests, there resulted a period of architectural production that, for the number and size of the edifices erected, the world has hardly seen equaled. From Arabia to Britain, no town but had its triumphal arches, its amphitheaters, its baths; and all these buildings were commonly of fairly colossal dimensions. In fact, next to putting up the greatest possible number of buildings, the Romans aimed chiefly at making each building of the largest possible size. Colonnaded streets, miles in length, were laid out in almost every town of Syria and Asia Minor. Each emperor tried to outdo his predecessors in the size and number of the public buildings he erected. Works of such dimensions and importance were pushed to completion with incredible haste. The Colosseum, a building over five hundred feet long, one of the vastest heaps of masonry ever assembled by the hand of man, was practically finished in ten years; Timgad, in the desert, with its stately arches and vast public buildings, sprang up almost in a day.

All this haste and wholesale construction could have only one result. No age and no people could produce a sufficient supply of good architects to meet so great a demand; not even a good architect could do good work in such feverish haste. Hence the stereotyped, thoughtless character of Roman ornament, that we have noted; hence it is that the capitals and mouldings seem to be machine-made, and the effect of the whole, for all its blatancy, is inexpressibly dreary and monotonous.

Probably this same cause is responsible for the uniformity so noticeable in Roman architecture. From the Persian Gulf to the Firth of Forth, from the birth of Christ to the reign of Constantine, Roman art shows a lack of variation absolutely without parallel in architectural history. It is impossible to assign a date to a Roman building from its style.[1] The Pantheon

[1] The controversies that have raged over the dates of the Maison Carrée at Nîmes and the Arch at Orange offer amusing illustrations of this.

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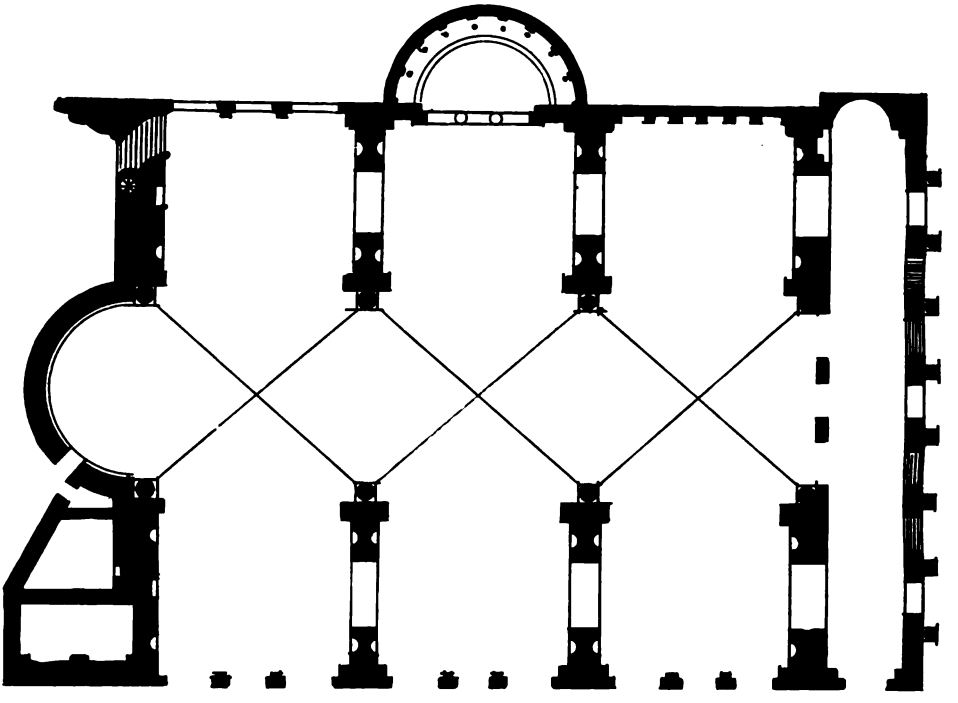

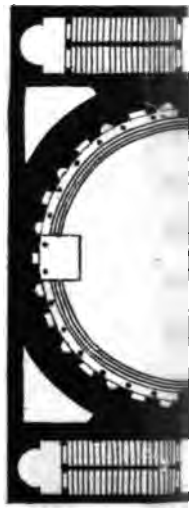

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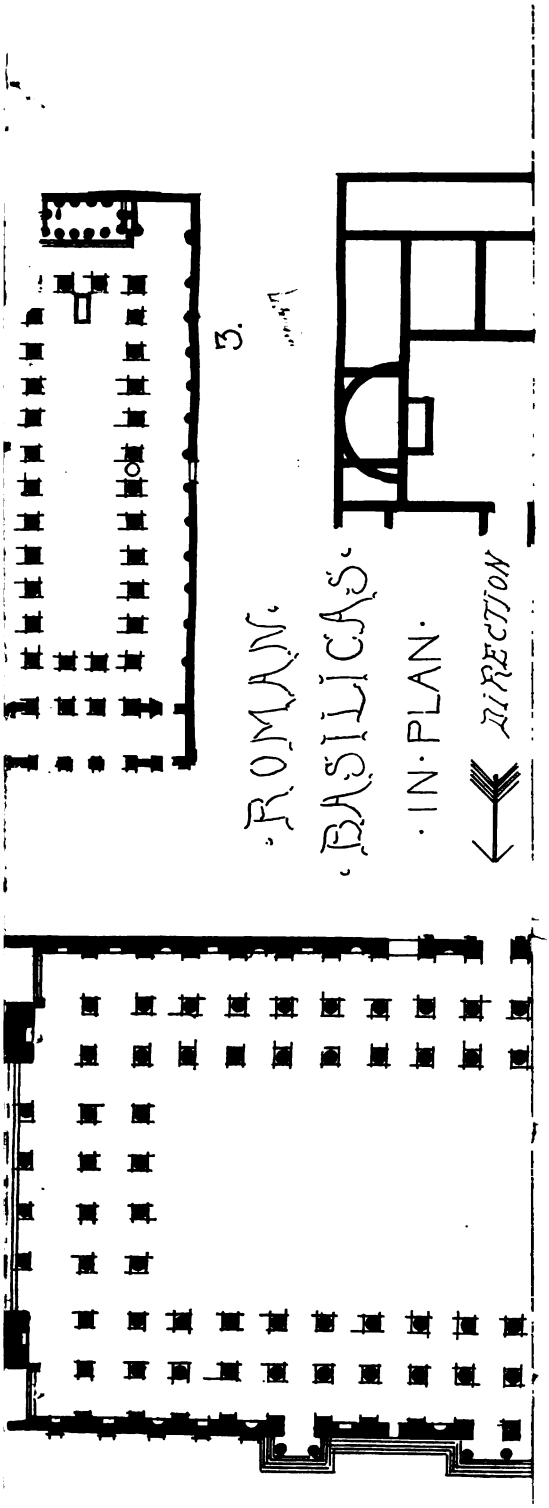

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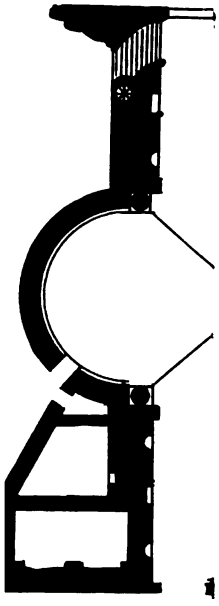

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— perhaps the most studied building in the world — was consistently misdated a hundred and forty-one years by all the best scholars, and if its true date is now known, it is thanks only to a happy chance in uncovering stamped bricks. In a general way, it is true, we can say that in the III century there was a period of debasement, when the style became especially florid; that at the time of Constantine there was a marked renaissance with a tendency to introduce new forms — a renaissance nipped in the bud by political and economic developments. Beyond this it is impossible to go. It is a time-honored convention that any inconvenient monument may be assigned to the "Augustan age," "on the purity of its style;" but, as a matter of fact, while perhaps the general average of taste declined in later times, the character of any particular building seems to have depended entirely on the taste of its architect, so that some monuments erected in the II century are quite as "pure" as many of the Augustan age itself.

A similar lack of variation is noticeable in Roman art geographically considered. While perhaps slight differences may be distinguished in the architecture of widely separated parts of the Empire, it is rarely indeed that we find a local school of art. This uniformity contrasts sharply with medieval conditions, when almost every town possessed a distinct architectural style of its own. We may indeed say that colonnaded streets are peculiar to Syria and Asia Minor; that in Africa archivolts are usually omitted; that in Spain more bridges were erected, in Africa more triumphal arches; that on the frontiers there is commonly a certain crudeness of construction noticeable, and so on, and so forth. But all these variations are surprisingly slight, and throughout the Roman world, Roman architecture is essentially the same in spirit, in design, and in detail.

If the Romans repeated everywhere the same types of building, it should in fairness be said that they had more different types than were possessed by any other architecture until modern times. The Romans were the first to develop the science of planning. Greek buildings had often been symmetrical, but had never been complex — they were regularly in the form

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of a plain rectangle with various simple divisions. It was left to the Romans to discover how to plan a complicated building. Their baths, for example, formed blocks sometimes five hundred feet square, divided into many rooms of various sizes. To fit these rooms together with exact symmetry, so that every jog on one side of the axis has a corresponding jog on the other side; and at the same time to meet the practical conditions of the problem — to give the various rooms the relative amount of space their importance required, to arrange them conveniently, to plan the circulation and communication between them, to light satisfactorily the interior rooms, and, in short, to fulfil all the hundred-and-one demands of practical use and convenience — this was a task of colossal difficulty and one at which the Roman architects excelled. (The plan of the Baths of Caracalla — perhaps the masterpiece of Roman planning — is given in Ill. 25.)

From the study of the plan resulted that rather exaggerated symmetry of Roman architecture, which has passed into modern work. It perhaps adds more than any other one characteristic to the dreary monotony of both. Symmetry is undoubtedly an element of beauty when it is used as it is in the Greek temple; where every metope is varied by the use of infinitely beautiful sculpture, where every figure of the frieze or pediment is made a point of separate and lively interest by the same superlative art. The refinements in inter-columniation and curvature, also served to give life and buoyancy to the Greek designs. But with the Roman orders, in themselves less interesting than the Greek, there are no variations to break the dreary succession of oft-repeated motive; no sculptures to add interest. The whole sinks into lifeless repetition.

We have spoken at length of the splendid engineering skill of the Romans and its influence on later times as the most important contribution of Rome to medieval art. It is a curious contradiction, however, that the types of building which Rome bequeathed to Early Christian and Byzantine imitation were not the types commonly vaulted.

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ILL. 23. — Temple of Mater Matuta, Rome. (From a French Drawing)

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ILL. 24. — The Pont du Gard

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Especially true is this of the basilica, which, as far as we know, was vaulted in only one very exceptional case — the Basilica of Constantine at Rome.[1] The origin of this type of building is not clear. It is usual to refer it to Greece on the theory that in default of other evidence, everything Roman may safely be assumed to be derived from Greek models.[2] Still, no trace of a Greek basilica has ever been found.

Unfortunately not a single example of the Roman basilica has come down to our days in even tolerable preservation; and this, despite the fact that practically every Roman town possessed at least one example. Ruins of twenty-three basilicas[3] are known to us, but of these, as a rule, only the plan can be made out. At Trier and Brixworth the walls still stand; but in both cases the buildings have undergone such serious alterations in later times that the original arrangements are even more difficult to trace than in the examples more completely destroyed.

From what evidence we have, it seems clear that basilicas were used in the administration of law and for other public business. They were of two kinds, public and private. The latter were built in the palaces of great men for their private convenience in the dispensation of justice and in the transaction of other business among their clients. Only one example of the private basilica has come down to us, the Basilica in the Palace of Domitian. It seems to differ from the established public type in no respect except size.

The public basilicas were ordinarily placed next to the forum. They were rectangular in plan, with a semicircular exedra, called an apse, at one, or both ends.[4] They were usually placed

[1] The side aisles of the Basilica Julia were also barrel-vaulted.

[2] The name basilica is clearly Greek, and it is usual to connect it with the Στόα βασιλικεῖον, the "kingly" stoa, of Athens. Furthermore, the type of building, which seems more Greek than Etruscan, presents certain distant analogies to the Greek stoa.

[3] The list is as follows: at Rome, the Basilicas of Constantine, Ulpia, Julia, Aemilia, and the private basilica in the Palace of Domitian; elsewhere in Italy, at Pompeii, Herculaneum, Velleia, Marechiaro, and Otricoli; in Africa, at Timgad, Théveste, Tipasa; in Syria and Asia Minor, at Jerash, Ḳanawât, Ḳal'at il-Mudîḳ, Pambouk-Kalessi, Ephesus, and Pergemon; in Germany, at Trier; in Montenegro, at Dukle; in England, at Silchester and Brixworth (?). This list comprises all the pagan basilicas that have been described, which can be identified with confidence as basilicas. Certain other ruins, commonly called basilicas, are of too doubtful authenticity, or have been too carelessly published, to serve as a basis for study.

[4] The Basilica of Constantine has two apses on adjacent sides.

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so that their long side formed the short side of the forum,[1] from which was the main entrance. The portico which bordered the forum on the other three sides was commonly omitted before the basilica. Basilicas with only one apse frequently had a second entrance opening through the rectangular end on the street, sometimes by means of a portico.[2]

The interior dispositions are not entirely clear. The apse seems to have been reserved as a seat for the judges. According to Anderson and Spiers it was curtained off from the rest of the hall.[3] In at least two instances[4] the wall opposite the forum was lined with shops. Except in small examples[5] the rectangular main body of the hall was divided into three or five aisles by two or four ranges of columns,[6] which were almost always carried on across the short ends of the hall. It is believed from a reference in Vitruvius that the central aisle was generally raised higher than the others, and that it was supplied with windows opening above the roofs of the side aisles. Such an arrangement, known as a clearstory, is found in other types of Roman buildings, notably the baths; but in the only two extant examples of basilicas,[7] where sufficient remains exist to show the original dispositions, it is evident that there was no clearstory. It is almost certain, however, that clearstories were regularly used. At Pompeii there were galleries over the aisles, and traces of stairs, leading, no doubt, to similar galleries, have been found at Timgad and in other basilicas. It is not unlikely that in the larger examples, such as those of Rome, clearstory and galleries may both have been found. The roof, as has been mentioned, was always of wood, but the apse was often covered with a half-dome. (The disposition of typical basilicas may be seen from the plate of plans, Ill. 22.)

Next in importance to the basilica, from the medieval standpoint, was the circular temple. We have fewer examples of

[1] Timgad, Silchester, etc.
[2] Kanawât.
[3] On what authority this conclusion is based, does not appear.
[4] Timgad and Basilica Julia.
[5] Notably Dukle and Trier, though in the latter there may have been aisles.
[6] Roman arcades in the Basilica Julia.
[7] Trier and Pompeii.

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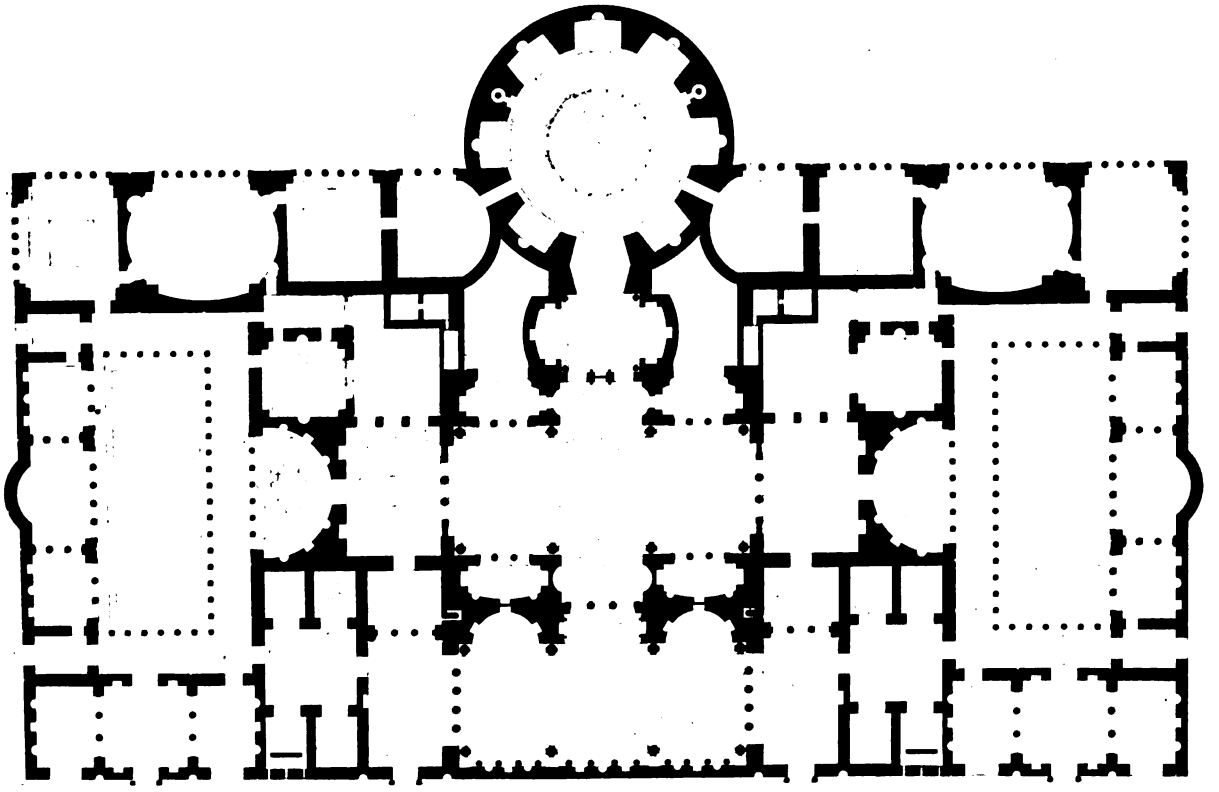

Ill. 25. — Plan of the Baths of Caracalla, Rome. (From Iwanoff)

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ILL. 26. — Maison Carrée of Nîmes

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round buildings than of basilicas; but, on the other hand, of the fifteen[1] that have come down to us, several are in excellent preservation. They are clearly derived from the Greek circular temples, of the type shown in Ill. 4, Fig. 6, and may be divided into two classes. The first, with timber roof, merely reproduces the Greek form, the only changes being the raising of the whole on a podium and the introduction of windows in the cella wall. A well preserved example of this type is the Temple of Mater Matuta at Rome (Ill. 23). The second type of circular temple differed from the first originally in the substitution of a dome for a wooden roof. Later, as the builders perceived the possibilities of the vault, these temples, which in their peripteral form had been small, were increased to colossal dimensions; the peripteros was discarded; and the result was the Pantheon — a great circular hall, covered with a dome, and preceded by a portico. This building is admittedly the masterpiece of Roman architecture (Ill. 13).

The great vaults of the Romans, though used in such buildings as the Pantheon and the Basilica of Constantine, received their chief application in the thermæ or baths. The vast size, the complicated but symmetrical[2] plan, and the splendor of these establishments have already been dwelt upon. (Ill. 25). The two most interesting and important rooms of the thermæ were the *tepidarium* and the *calidarium*. The former, often a hundred feet in length and as much in height, was generally covered with a groin vault in three bays, carrying a clearstory. Less commonly, it was roofed with a plain barrel vault. The calidarium was circular or polygonal, and covered with a dome. The thermæ were constructed throughout of brick or rubble entirely coated with marble veneering. In these establishments, Roman architecture found its freest and most characteristic expression. Here size and gorgeousness of decoration reached their extreme. It is to be remarked, however, that, to judge from

[1] At Rome, the Pantheon, Temple of Hercules, Ss. Cosma e Damiano, Temple of Vesta, and Temple of Augustus; elsewhere in Italy, at Tivoli, Temple of Vesta and Tempio della Tosse; at Milan, S. Lorenzo (?); at Albano, Temple of Minerva; at Catania, Sta. Maria della Rotonda, in Syria, at Ba'albek; in France, at St. Maur-de-Glanfeuil; in Istria, at Spalato; in Asia Minor, at Ephesus ("St. Luke's Tomb"), and at Aglasan; in England, at Silchester.

[2] Only the thermæ of the best class have symmetrical plans.

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modern imitations of the Roman thermæ, the largeness of their parts must have to a large extent caused these colossal halls to lose their due effect. All the details of the order and ornament being made proportionately large, the scale of the whole must have been dwarfed.

Roman temples are too sorry affairs to call for extended comment here. In the main, Greek forms are parodied, and it is singular how the Roman architect by such slight touches has succeeded in destroying all the beauty of his original. It will be seen from the illustration (26) that the temple has been mounted on a podium, and is approached by a flight of steps. It has had its front portico deepened, and the peripteros no longer runs all around the cella; but the columns on side and back are engaged in the cella wall, — *i.e.*, the temple is pseudo-peripteral. Prostyle temples, which are more frequent than in Greek times, show the same peculiarities of podium and deep porch. The Romans varied the design of their temples much more than did the Greeks; they often added an apse at the far end, they sometimes covered them with a vault,[1] and wrought many other variations.

It is, perhaps, worth while to say here a few words on the subject of the Roman house, because certain authors have suspected it of being the prototype of the Christian basilica. It is a common error to quote the type of house found at Pompeii as typical of the Roman dwelling everywhere, though in point of fact this was only one among many types. The Pompeian house (Ill. 27, Fig. 6) consisted of shops in the front part succeeded by two courts behind called respectively the atrium and the peristyle, around which the living rooms were grouped. Many of the important chambers were placed on the second floor — a fact often slighted because all these second stories have perished. Third stories existed in instances, but seldom seem to have been important. Houses of similar plan have been found at Herculaneum and Velleia; but at Rome, to judge from the House of Livia and the House of the Vestal Virgins, — the only really well-preserved examples of ancient domestic architecture in the eternal

[1] As the Temple of Diana, at Nîmes, the Temple of Venus and Rome, at Rome, and in three or four other cases.

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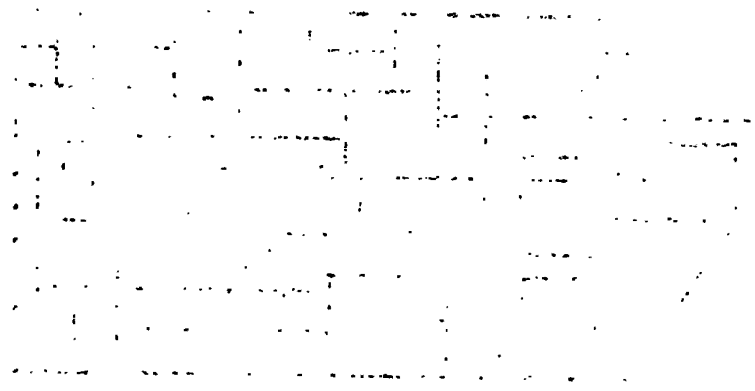

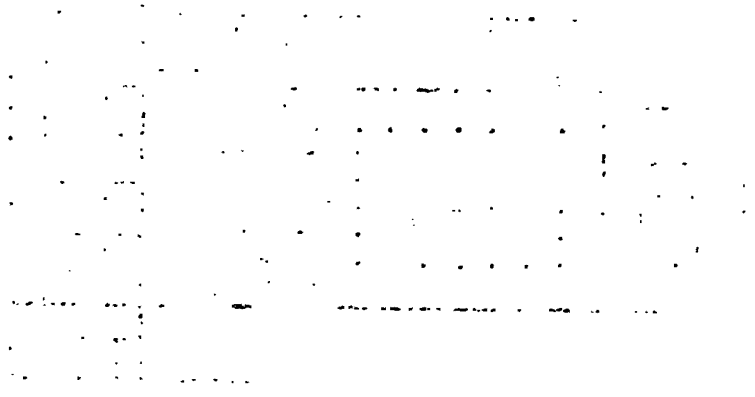

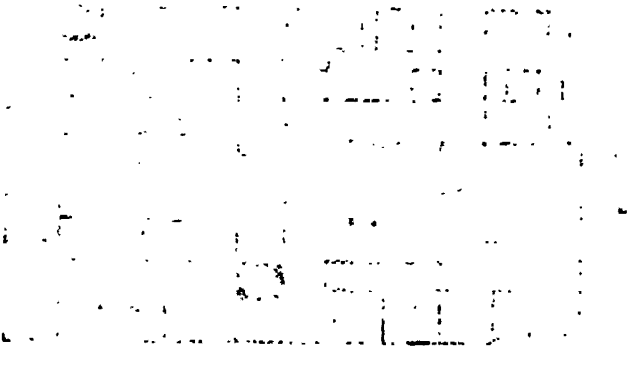

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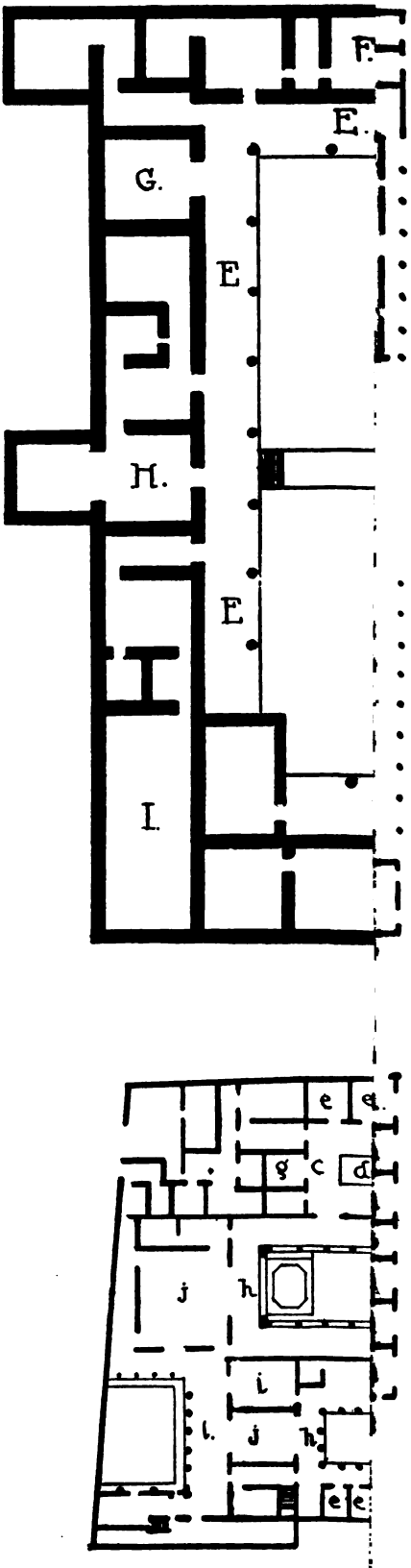

FIG. 4.

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Ill. 27. — Roman Houses

Fig. 1. — Villa at Sponley Wood, England. From the measurements of Middleton, in Archæologia, 52^2, p. 654. This figure, it should be noticed, is drawn to a scale just twice as large as the other plans on the plate. *A* is the entrance gateway in *BBBB*, an enclosing wall of masonry presumably of very considerable height. *C*, a path, led through *DD*, a garden or court, to *EEEE*, a veranda, covered by a portico. (Only the foundation walls on which the columns of this portico rested have been discovered. There is no authority for the number or position of the columns as restored in the plan). From this veranda opened the various rooms of the house, of which *H* was the tablinum, a combination of office and library, *I* was the œcus, or state reception room; *G* was the culina, or kitchen; *FP* were bathrooms.

Fig. 2 is the house of Sertius in Timgad, Africa, after the measurements of Boeswillwald. The apartments are lettered the same as in Fig. 6, which see for explanation.

Fig. 3. — House of the Hermaphrodite, Timgad, after the measurements of Boeswillwald. The apartments are lettered the same as in Fig. 6, which see for explanation.

Fig. 4. — House of Castor and Pollux, Pompeii, after the measurements of Niccolini, Vol. I, Tav. 1. See list of monuments for a commentary on this house. Corresponding rooms are labeled with the same letters as in Fig. 6, which see for explanation.

Fig. 5. — House at El Barah, Syria, from De Vogüé's measurements, pl. 36. While dating from Christian times, it shows admirably the type of house developed by the Romans in Syria. The second story was usually identical with the first in plan, and was reached by an exterior staircase. The letters refer to the explanation under Fig. 1.

Fig. 6. — House of Pansa, Pompeii. *aaa* were a row of tabernæ, or shops, opening off the street, and having no connection with the house. They were probably rented out. *B* was the ostium, or entrance vestibule; *cc*, the atrium, or first court, where the head of the household conducted all buiness transactions. This atrium is of the Tuscan type; that is, the portico around the court rests not on columns, but on beams carried across. When this roof rests on columns as in the peristyle (*h*) the atrium is said to be of the Corinthian type. *D* was the impluvium, or central space of the atrium, open to the sky; *eee*, cubiculæ, or sleeping apartments; *f*, the alæ, or wings of the atrium, often occupied by statues of ancestors; *g*, the tablinum, a sort of office, or library; *h*, the peristyle, the center of home life and the main part of the house. In the center of the peristyle was a court open to the sky, with the piscina, or fish-pond in the center. The peristyle was laid out in gardens with shrubbery, etc., and surrounded by porticoes. *I* was the triclinium or dining-room; *j*, the œcus, or state reception room; *k*, the culina, or kitchen; *l*, the porticus, or rear porch opening on *m*, the xystos, or garden.

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city — the type was very different.[1] In England (Ill. 27, Fig. 2) the plan varied greatly in separate examples, but both courts were generally omitted and the house was built around three sides of a garden, with all the bedrooms above the ground floor. Glazing was used extensively in the windows, and the profiles of mouldings and capitals show surprising freedom. In Syria (Fig. 5), on the other hand, the typical house formed a simple rectangle, without courts, opening on the garden by a portico. The second story was quite as important as the first, was also finished with a portico, and was reached by an exterior stairway. In Africa still another type is found, as may be seen in Fig. 2. In short, the manner in which the Romans adapted their domestic architecture to the exigencies of climate and local conditions, is one of the most admirable features of their style, and it is no more fair to judge of the Roman house from Pompeii, than it would be to judge of the American house from a seashore cottage.

Roman tombs show quite as large a variety of types as the houses. Perhaps the most characteristic form is the mole type, consisting of a huge mound of earth, coated with stone or marble. This marble coating was in the form of a cylinder, resting on a podium. The cylinder was surrounded by a peristyle, and crowned by a stepped cone. Other types were rectangular structures of two or more stories crowned with a cone, temples in miniature, etc., etc. It was at one time believed that the circular churches of the Early Christians were largely derived from tombs of the mole type, but that theory is now hardly held seriously.

Many types of building, such as the aqueduct (Ill. 24), the market, the curia, the forum, the shop, the column, interesting as they are in themselves, do not concern us here, for they can hardly be connected with the destinies of medieval art. But no description of Roman art can omit all mention of the triumphal arch (Ill. 31), one of the most characteristic of all the imperial monuments. Of single or triple opening, adorned

[1] The houses shown on the Capitoline plan have only a single atrium. The value of land led to the piling up of stories until the government had to fix a limit. See Brown, *From Schola to Cathedral*, pp. 40–41.

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ILL. 28. — Ampitheater at Nîmes. Exterior

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ILL. 29. — Amphitheater at Arles. Interior

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with detached or engaged orders, they sum up both the vanity and the power of Roman architecture.

Characteristic, too, are the theaters and amphitheaters of the Romans (Ill. 28, 29, 30) — vast heaps of masonry before which, for all their debased detail, it is impossible to stand without a feeling of awe at the sheer bulk and mass of the construction. This feeling of awe is kindred to that which is inspired by the Great Pyramids of Egypt — a sort of wonder at the pure physical feat of puny man piling up such huge masses of masonry; but in the one case the severe simplicity, almost lack of design, heightens the impression — in the other, the mass makes itself felt in spite of triviality of decoration.

Such was the heritage which Roman architecture bequeathed to the Middle Ages — an admirable system of construction, a style of ornament already becoming debased, a tradition of sumptuous and splendid building. It is perhaps unwise to carry too far the search for precedents of medieval architectural forms in antiquity. In the Romanesque and Gothic periods conscious archaism and the deliberate copying of ancient forms, while by no means unknown, were happily never carried to very great lengths. The vital influence which Rome exerted upon these ages was through the force of unbroken tradition, through the fact that certain forms, such as, for example, the Composite capital, never passed out of use, but were employed by generation after generation, the later builders borrowing them from their predecessors and not, necessarily, from the ancient monuments directly. At times, it is true, as in the Romanesque schools of Pisa and Provence, we find the medieval builders indulging in antiquarian research with an enthusiasm that is bounded only by the resources of their own imperfect technique. But even such artists were in no sense archæologists; they had but the most casual acquaintance with the works of antiquity, and the features which they reproduced were the common, every-day features — motives so obviously classical that they are perfectly familiar to, and easily recognizable by, even the most superficial modern student of architectural history. To suppose — as is too often done — that the builders of those medieval schools which show no evident signs

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of having been influenced by the direct study of ancient architecture deliberately sought for precedents in classical ruins, and acquired sufficient archæological skill to unearth motives so obscure that they have again come to light only thanks to the exhaustive explorations of modern scholarship, is to misunderstand profoundly the spirit of medieval architecture. When, as has not infrequently happened, a new classical building which seems to show analogies with some well-known medieval motive comes to light, it by no means follows that the medieval builders were acquainted with this particular structure and reproduced its dispositions. And the more exceptional these dispositions, the less the probability. Parallel development is a force in architectural history whose importance has been many times demonstrated, but which archæologists are ever prone to ignore. The true heritage that Rome left to the Middle Ages was not the exceptional, unusual constructions, however strangely analogous these may seem to be to later forms — it was rather the vital, living tradition, the dispositions that never ceased to be a living part of architectural style.

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Ill. 30. — Theater at Orange. Restoration

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ILL. 31. — Arch at Orange

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CHAPTER II

THE EARLY CHRISTIAN STYLE

THE IV century marks an epoch of transition in Roman history — a time when the old order changes and gives place to new. During the preceding fifty years decline had been steadily progressing, and while the barbarians had been gathering against the frontiers in ever-increasing force, the military power of the Empire had been wasted in an endless succession of civil broils between rival claimants to the imperial throne. Added to the miseries of war, were those of misgovernment. Thirty tyrants were followed by only five "good" emperors. However, at the very end of the III century there came a period of comparative calm. The Empire, grasped for a moment in the firm hand of Diocletian (284–305), enjoyed a brief era of hope and prosperity, an era that was reflected in art, and especially in architecture, by the dawning of a great revival — a renaissance, which, although the swan song of Rome, produced monuments, lacking perhaps in technique, but unequaled for originality and interest by all the splendors of the golden age of Augustus.[1] This renaissance survived the recurrence of civil wars with which the IV century opened; it took on new life under the encouragement of Constantine; and only gradually did it pass away in the general decline of civilization and the arts that ensued between the death of that emperor and the final breaking of the Roman frontiers in 375; — a period during which the Empire, all unconscious, stood tottering on the edge of its final disruption.

It was, then, at the height of a period of great artistic and intellectual activity, that Constantine, in the year 313, issued the ever-memorable Edict of Milan. As a direct conseqeuence of this edict, Christian churches were built in great numbers

[1] *e.g.*, Basilica of Constantine, Arch of Constantine, Palace of Diocletian at Spalato.

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from one end of the Empire to the other.[1] It was indeed a happy chance that this sudden demand for monumental Christian buildings should have arisen at precisely the only moment in her history when Rome could supply architects competent to express in stone and marble the new spirit of the Church. During the Constantinian renaissance the imperial builders for the first time broke from formula and tradition, for the first time displayed a spirit of progress and invention. Thus, when the Church came to require on a large scale the services of architecture, she found at her command a body of artists exceptionally well qualified for the task.

It is certain, however, that the general type of church building had been consecrated by tradition long before the Edict of Milan was issued. The spread of Christianity is a question of extreme historical difficulty and one that has been much discussed. Yet there can be no doubt that it had had a long and organized career as a compact state within the state before its recognition in 313. The very fact that when Christianity was once established churches on similar models sprang up simultaneously all over the Empire seems to show that the type of church building had already been firmly established.

The vast energies thrown into the building of these countless ecclesiastical edifices were levied at the expense of civil architecture.[2] With all the churches built in Rome in the early Christian centuries, the number of secular buildings of which we have knowledge could almost be counted on the fingers of one hand. Thus the Edict of Milan marks a very definite crisis in architectural history: before, the Church had been of no importance in moulding the destinies of the art; after, the Church became the sole arbiter of these destinies. So complete was the change that from this moment until the end of the Middle Ages the Church absorbed all the energies of monumental architecture, and the Christian basilica became the formative and generative influence which civil architecture, when at rare intervals it struggled for expression, but weakly reflected. Not until the Gothic

[1] The conversion of Constantine, of course, affected the East only after 324, when Constantine, by the defeat of Licinius, for the first time became ruler over all the Empire.

[2] Except in Syria.

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period did secular buildings of dignity and beauty come to be erected, and even these were characterized by the application to civil architecture, of stuctural forms and decoration essentially ecclesiastical. Therefore, from this time on, we shall confine ourselves exclusively to the study of church architecture.

Probably no human document ever produced a greater effect on the destinies of architecture than the Edict of Milan. In 327, however, Constantine effected another change of hardly less vital importance, — the removal of the capital to Constantinople. Henceforward, Byzantium, not Rome, was the center of imperial power, and consequently of imperial culture. Rome, indeed, in a sense remained a capital city, for during the IV century the Empire was often ruled by two emperors, one of whom had his seat at Rome; and in 395, when the division of East and West became permanent, Rome was made the capital of the Western Empire. But if Rome was the center of Europe, Constantinople was the center of the world, and the political and artistic superior of the Italian metropolis. As time went on, the two capitals drifted into paths ever more widely divergent. As Rome declined, Constantinople, natural heir to Greek culture and learning, rose in power and civilization. The arts flourished; a new architecture sprang up, more beautiful than the world had seen since the days of Pericles and Alexander, — an architecture that united Roman construction with Greek refinement of decoration, and both with a technique, inferior, indeed, to that of the ancient Greeks or even of the Romans, but immeasurably superior to contemporary work in the West. This style reached its full bloom in the VI century, simultaneously with a great revival of political and material prosperity. Justinian, emperor of the East (527–565), seemed on the point of reëstablishing the supremacy of the Roman Empire; the flood of barbarian invasion was for the moment turned back, and success after success crowned the Eastern arms. In 534 North Africa was reconquered from the Vandals, and soon after the subjugation of Italy was commenced. Ravenna fell in 539, and fourteen years later the entire peninsula had been subdued.

This capture of Ravenna is one of the turning-points in Western architectural history. By reason of the Byzantine occu-

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pation of this important city, and especially by reason of the Byzantine monuments there erected, the Early Christian style underwent essential modification from Byzantine influence. From this union were born those subsequent European styles which are known under the general name of Romanesque.

This outside stimulation was, it must be confessed, sadly needed by Latin architecture, whose history from the time of Constantine is the record of a slow but continuous decline. As the barbarians advanced, overrunning province after province, they brought the art of architecture to a standstill wherever they penetrated. In general, the permanent barbarian occupation of a province may be taken to mark the end of the Early Christian style in that locality, for when at last the Teuton took up the problems of architecture, it was in a different spirit and in a style which it is better to class as Romanesque.

The first barbarian invaders to penetrate within the Roman frontiers were the Visigoths, who under the brilliant leadership of Alaric defeated the imperial army at Adrianople in 378 and, after wandering with varying fortune through Mœsia, Greece, and Illyricum, finally turned towards Rome. In 410 the city was sacked. To defend the capital the Roman troops were withdrawn from Britain (411), leaving that province at the mercy of the Angles, Jutes, and Saxons. Simultaneously the Vandals burst into Gaul, plundered its fairest provinces, and wandered into Spain and Africa, where they finally established themselves. The Visigoths, meanwhile, turned from Italy and established in Gaul and Spain a great kingdom, stretching from the banks of the Loire to the Pillars of Hercules.

The Empire of the West still continued to exist, though shattered in power and prestige, and slowly passing by unconscious stages into the hands of the barbarians. The Arian Goth, Ricimer, held the supreme power from 457–472, deposing four emperors. In 476 Odoacer became the first really German king of Rome, and the Empire of the West, externally, had ceased to exist.

How this end of the Roman Empire was external only, and how its vital spirit still lived on, has already been dwelt upon. The real successor to the Western emperor was the pope. The

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supremacy, temporal and spiritual, of the See of St. Peter cannot be said to have been universally acknowledged before the XI century; but the bishop of Rome was distinguished among his fellow bishops as early as the IV. While the emperors in fear of barbarian invasions fled from the imperial city and transferred their capital now to Milan, now to Ravenna (402), the popes remained at Rome, which gradually came to be thought of as their capital. Under the German Odoacer or the Ostrogoth Theodoric it remained no less so. Thus at Rome, alone of all the cities of Italy, of all the cities of Europe in fact, we find no decisive influence of the barbarian invasions reflected in the architecture. The Early Christian style persisted at Rome essentially unchanged from the days of Constantine to the Renaissance.

Towards the end of the V century a new wave of barbarian invasions swept over the West. North and east Gaul — all not previously held by the Visigoths — fell into the hands of the Franks (486). Theodoric and the Ostrogoths wrested Italy from Odoacer, and established the Ostrogothic kingdom in Italy with its capital at Ravenna. This kingdom was established and governed on exceptionally enlightened lines. Theodoric himself was the most broad-minded and advanced of all the German conquerors; he was a man of culture, and had been educated at Constantinople, where he had become thoroughly imbued with imperial civilization. His rule is, therefore, more like a revival of Roman ideas than a barbarian conquest. Accordingly we need not be surprised to find him decorating his capital city, Ravenna, during the period of his occupation (493–526) with a series of monuments, which, although strongly tinctured with Byzantine influence, yet constitute perhaps the finest examples we possess of the Early Christian style. Theodoric was an Aryan and opposed to the Bishop of Rome. This fact and his education at Constantinople are sufficient to explain the strong Byzantine elements so noticeable even in those monuments of Ravenna which antedate the Byzantine conquest.

Of the far-reaching consequences of this conquest (539) on Romanesque art, it will be necessary to speak at length in a

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future chapter. As far as the Early Christian style is concerned, the Byzantine occupation produced results only at Rome, and there only in ornament; for in the rest of Italy the course of the style had already been run. In 568, only fifteen years after Italy had been finally subdued by Constantinople, the Lombards, under Alboin, descended on the Po valley; and with their invasion, the curtain falls on Early Christian architecture for Italy, and, indeed, for all the West, excepting always Rome.

Of the eastern provinces of the Empire, especially Syria and Egypt, the history is more simple. The official recognition of Christianity (324) brought forth many churches in these provinces,[1] as elsewhere. We have seen how the strong hand of Rome almost, but not quite, extinguished local differences of school between the various provinces in the imperial epoch. These same differences, slightly accentuated, appeared in the earliest churches. But as time went on, and the grip of the Empire slowly relaxed, the schools continued to develop, each along its own individual lines, until in the VI century there grew up in Syria and Egypt styles quite as distinct from the Latin, as from the Byzantine. To the Byzantine architecture, the school of Syria bears indeed some slight analogies, and since it was situated so near the Eastern capital it would be natural to see here direct influence from Constantinople. It seems probable, however, that these analogies are largely accidental and that the two styles developed side by side without either one directly influencing the other. The Syrian style was brought to a complete and untimely end by the Mohammedan invasion of 634.

Egypt, while enjoying the same comparative peace and prosperity that contributed so largely to the growth of architecture in Syria, possessed a population less progressive and less skilled in the arts. At the time of the Mohammedan conquest in 641, a fair amount of technical skill seems to have been acquired, and a distinctive, if not a progressive style. The caliphs treated the Christian Copts with toleration, and churches continued to be erected after the Arabian occupation in numbers, if not of great size or splendor. Even to-day the Coptic

[1] There are, however, no very early authentically dated churches extant, either in Syria or Egypt.

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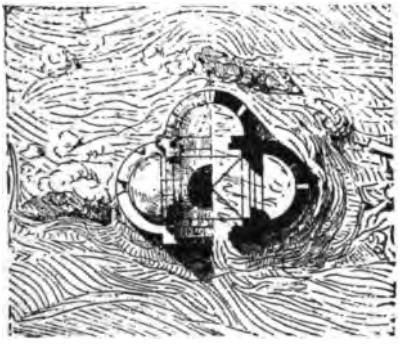
churches of Egypt are still built in essentially the same form as in the VI century. The Coptic school, in consequence, must be reckoned the longest lived member of the Early Christian style.

It has already been hinted that the Early Christians probably possessed a fully established form of church building long before Constantine. Unfortunately, however, no vestige of a pre-Constantinian church has come down to us. All the remains that we have of distinctly Christian architecture of pre-Constantinian date belong to one or the other of two classes: —



Ill. 32. —Plan of Sidi-Mohammed-el-Guebioni. (From Saladin)

catacombs, underground galleries filled with tombs, — or exedræ, the so-called memorial cellæ, built for the celebration of the funeral feasts held annually over the graves of martyrs. Attempts have been made to derive the Christian churches from both of these sources.[1] Neither of these theories is held to-day, but the type of cella shown in Ill. 32 is sufficiently interesting in itself to deserve at least a passing notice. In all, some five examples of buildings of this type[2] have come down to us in varying states of preservation.

Before taking up the vexed question of the origin of the Christian basilica, it will be well to examine in some detail the form

[1] From the catacombs by Marchi and Martigny, followed by Kraus: from the exedræ by G. Baldwin Brown.

[2] Two at Rome; in Africa at Sidi Mohamed-el-Guebioni, Maâtria, and Thugga.

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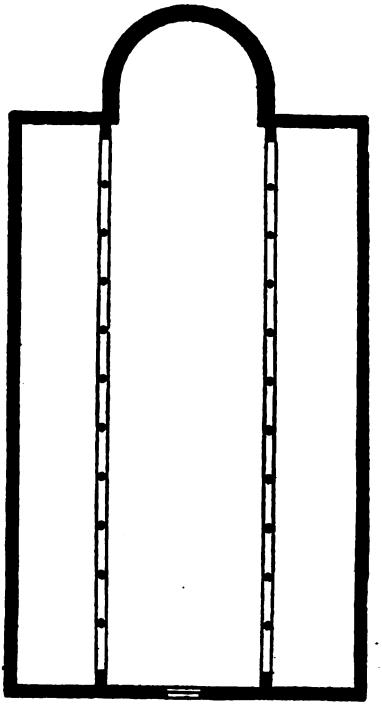
for which we have to account. The Christian basilica was ordinarily a rectangular building with the sanctuary at one end, and was extremely simple in design, showing only slight changes from Roman methods of construction. It seems rather like an irony of fate that what was, perhaps, the most striking characteristic of these primitive Christian buildings — a characteristic abandoned only upon compulsion — was the flagrant



ILL. 33.—Plan of Sta. Agata, Ravenna.
(From Dehio)

breach of the eighth commandment. The pagans had already established the custom of pilfering building materials from older structures for use in new edifices. Even on the Arch of Constantine — justly esteemed as one of the masterpieces of Roman architecture — were sculptures which were pilfered from the Arch of Hadrian; and the evil example thus set was eagerly followed by the Christian architects.[1] This use of second-

[1] This pilfering of art works has been, indeed, characteristic of Roman methods from the earliest times. The capitals of the Temple of Jupiter Olympus at Athens had been pilfered by Sulla, while after the conquest of Greece, the Hellenic peninsula had served as a vast quarry,

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ILL. 34. — Façade of the Temple at 'Atil. (Restoration based on Butler's Measurements)

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hand materials becomes, in fact, the dominating characteristic of Early Christian art (Ill. 38). New stone seems to have been quarried only when no ancient monuments were at hand to be despoiled; and so great was the supply of classic material that that event, in general, occurred only at a very late date, or in remote provinces. This habit of pilfering necessarily degraded the style. A slovenly appearance is the invariable result of jamming together in an edifice, willy-nilly, materials intended for another building. Furthermore, the sculptors and stone-cutters, already unskilful, lost what little art they still possessed from sheer lack of practice. As there became less and less of the old material to choose from, more and more heterogeneous and disproportionate fragments of columns, capitals, entablatures, gravestones, and every sort of débris came to be piled together, until, in the V century, the technique of building sank to the lowest depths.

Aside from this use of pilfered materials, perhaps the leading characteristic of Early Christian construction was the custom of placing arches on columns. This device, while known by the classic builders, was only exceptionally employed. A solitary instance is found at Pompeii, in the house of Regione IX, Isola VII.[1] In Syria, generally, the so-called "Ba'albek arch motive" is common, the entire architrave being bent up in the form of an arch, as in the little temple at 'Atîl (Ill. 34).[2] A somewhat similar effect is given by the purely decorative treatment of an arch under a pediment on the ends of the triumphal arch at Orange (Ill. 31). The motive is also well developed at Spalato, where arches resting directly on columns occur in the famous arcade.

Thus the Early Christian builders found no lack of classic examples for this usage. The step from the flat entablature, however, was such a short one, that it may well be doubted whether they did not rediscover it for themselves. The Roman builders frequently used concealed relieving arches over lintels to reduce

whence were drawn statues, paintings, and works of art of all kinds in incredible numbers to adorn the villas, palaces, and temples of Italy.

[1] Published by Nicolini.

[2] I am deeply indebted to Mr. Howard Crosby Butler for his kind permission to have this façade redrawn from the half-tone published in *Architecture and Other Arts in Syria*.

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the strain (Ill. 34). Such a construction might easily be introduced into a basilica, where the height of the nave walls would bring considerable weight on the architrave. If the useless filling-in material were omitted, the result would be a continuous flat entablature with arches above it.[1] This design being felt awkward, the next step would be to saw out the portions of the entablature between the columns, leaving the arches free, but resting on square blocks of entablature over each column (Ill. 44).

These entablatures, or stilt-blocks, as they are called, were long retained, for the final step of placing arches directly on columns offered certain technical difficulties. According to the classic rules of proportion the archivolt of the arch must be considerably wider than the half of the abacus of the capital it was to occupy. Consequently, when two of these archivolts fell together on a column, trouble ensued; the archivolts must be made to intersect, a most unpleasant expedient, and one of such difficulty of execution as to require a technique more facile than the Early Christians possessed. A solution of this problem in the treatment of the classical orders has never been found. Hence, in the basilicas we find these stilt-blocks omitted only after the classical orders and proportions had come to be neglected, so that the archivolts could be diminished in size or eliminated altogether. In the meanwhile, the stilt-block was a convenient, if homely, makeshift.[2]

Such were the humble structural innovations introduced in the Early Christian basilica. For the rest its design was simple: no vaults, no dome, no complex questions of thrusts and buttressing. Except for the modest half-dome of the apse, the entire structure was simply roofed in timber.

The plan of the basilica, on the other hand, showed a number of new and important features, many of which were destined to endure throughout the Middle Ages and to modify sensibly the destinies of Western art. One of these was the intro-

[1] An actual example of this constuction occurs in the baptistery of S. Giovanni in Laterano, Rome. This construction is also common in Syria, but almost always, I believe, over the lintel of a doorway or window, as in Ill. 34.

[2] The stilt-block was also found useful in equalizing the awkward discrepancies in height between various pilfered columns:

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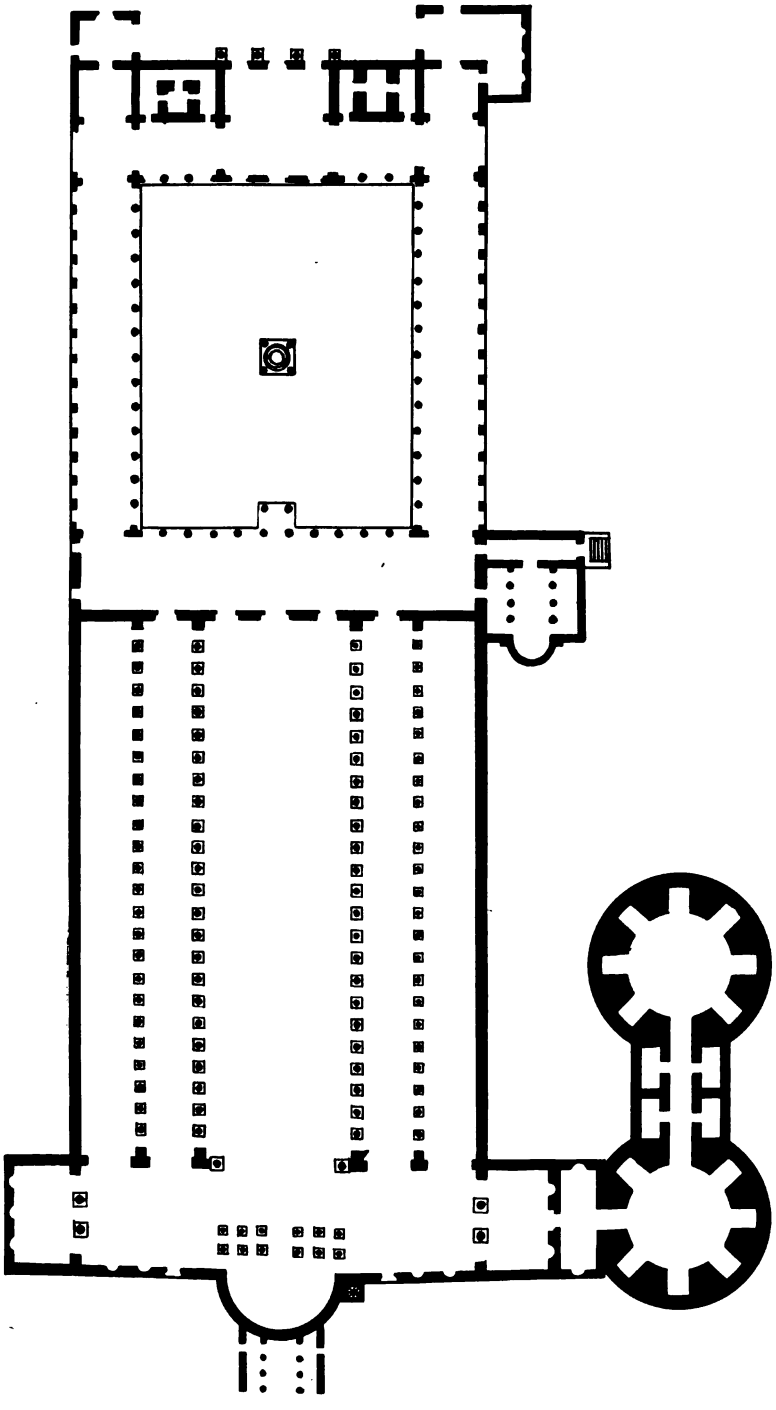

ILL. 35. — Plan of old S. Pietro, Rome

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duction of a definite system of orientation. This was, again, not an entirely new idea. Greek temples, with rare exceptions, had been constructed with the principal front facing the east, so that the light of the rising sun penetrated the great doors and bathed the sanctuary in light. Similarly, the Persian sun-worshipers always faced the east, and the Jewish synagogue was generally, although not always, orientated towards the Holy of Holies at Jerusalem, as the later Mohammedan mosque was orientated towards Mecca. But the Romans attached no value to this idea. Their temples were turned as often in one direction as in the other. It is consequently curious to find that in Rome, as throughout the western half of the Empire, the earliest churches seem to have been orientated on the principle of a Greek temple, with the principal entrance toward the east, the sanctuary towards the west. Nissen has attempted to prove (not altogether convincingly) that the orientation of these early churches was carried out with such nicety that their axis exactly points to the sunrise on the day of the saint to whom they are dedicated. In the East, strangely enough, where we should rather have expected Greek influence, the contrary orientation was used; the sanctuary was towards the east, the entrance towards the west. This reversed orientation was introduced in Rome in the V century. The first example we have of it, is the second (present) building of S. Paolo f.l.m. Although it was long before the new rule became established, it gradually prevailed, and so universal did it finally become in western Europe that it is always customary to speak of the sanctuary of a church as the "east end." The "south side" is consequently to the right, as one enters, the "north side" to the left. The south is also sometimes known as the side of the epistle, the north, as the side of the gospel, from the fact that the rites of the church required the reading of those portions of the Scripture from these sides respectively.[1]

Bearing in mind these points of the compass, let us pass within the church and examine in detail the plan and dispositions. The Christian basilica, in its most typical form, consisted

[1] The reversal of orientation did not effect this; the north is always the side of the Gospel whether the church faces east or west.

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of a nave and two side aisles, separated from each other by two ranges of columns and terminated to the eastward by a semi-circular apse (Ill. 33). In the superstructure the church was equally simple. The nave, which was raised above the aisles, was lighted by a row of large clearstory windows, and was covered with a wooden ceiling or an open-timbered roof. The aisles had lean-to roofs, resting against the nave walls, thus necessitating a blank wall space in the interior of the nave between the lower edge of the clearstory windows and the upper edge of the main arcade. This space, known as the triforium, (Ill. 37, 39, 41 and 43) was a favorite spot for decoration. The columns of the main arcade carried either a flat classical entablature, as in Sta. Maria Maggiore (Ill. 36), or arches, as in S. Paolo, f.l.m. (Ill. 43), Sta. Agnese, f.l.m. (Ill. 38), and S. Clemente (Ill. 41).

The basilica of three aisles was the most typical form, and it is probably not an exaggeration to say that twenty churches were erected on this plan for every example supplied with one or five aisles. However, both one and five-aisled basilicas sometimes occur. Edifices of the single-aisled type are for the most part small and unimportant. Those we know in Rome[1] are earlier secular buildings remodeled, and many of those found in Syria would seem to have been originally houses, and to have been converted into churches by the removal of the partition walls and the addition of an apse. Compare, for instance, the plan of the chapel at Rbê'ah, (Ill 59)[2] and the house at El Barah (Ill. 27, Fig. 5). But in Africa single-aisled churches obtained considerable importance. They were given an architectural treatment quite similar to that bestowed upon the three-aisled type, except that, of course, the main arcade was replaced by a solid wall.

The five-aisled basilica (Ill. 35, 43), although, numerically speaking, but comparatively few examples have come down to us, is nevertheless of great importance from the circumstance that these churches, when they do exist, are commonly of extraordi-

[1] S. Andrea in Barbara, S. Balbina.

[2] I am indebted to Mr. Howard Crosby Butler for his kind permission to reproduce this plan from *Architecture and Other Arts in Syria.*

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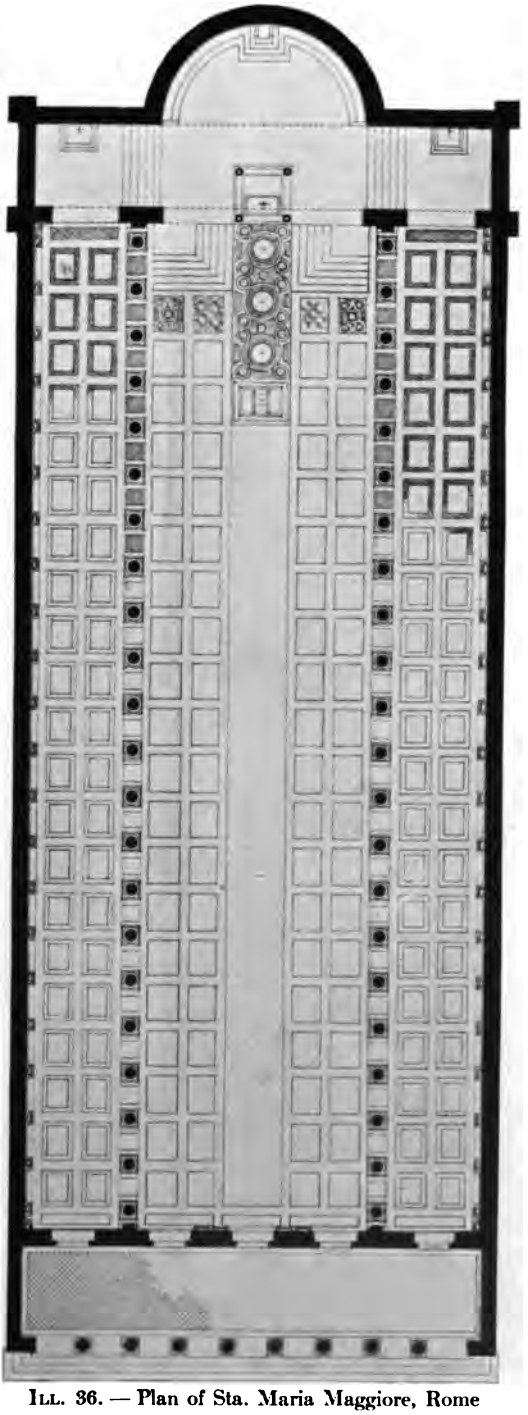

ILL. 36. — Plan of Sta. Maria Maggiore, Rome

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nary dignity. The extra width and capacity afforded by plans of this type rendered them especially suitable for accommodating a vast congregation. A three-aisled church might be indefinitely prolonged in length, but only those worshipers who could be accommodated in the front part would be able to see and hear the ritual. With five aisles the number of front places would be increased by at least one-third. So in the great metropolitan churches five aisles seem to have been preferred, while in the smaller edifices the three-aisled type was usually followed, perhaps because even at this early date the number three had acquired a mystic significance.

Basilicas, whether of one, three, or five aisles were all occasionally supplied with transepts. The transept is, in essence, a single-aisled nave (with its axis at right angles to the main axis of the basilica), inserted between the apse and body of the church. The roof was ordinarily of the same height as that of the nave, so that the transept became a great, lofty, open space in front of the apse. The transept sometimes projected beyond the outer walls of the aisles (Ill. 35), sometimes was flush with them (Ill. 36).

It has been widely held that the transept was introduced for mystic reasons in order to give the church a cruciform plan; but, as a matter of fact, the resulting outline is at most "T-shaped," and is often purely rectangular. Furthermore, primitive Christianity did not delight in memories of the passion. Not until the V century was the cross represented in art under its true form. However influential this symbolism may have been in urging the retention of the transept in later times, it can hardly account for its origin,—a problem which is not made less perplexing by the fact that transepts seem to occur in a purely episodic manner. They are found sometimes in the earliest, sometimes in the latest churches. Since the more important basilicas were generally provided with them, we find but few examples of a five-aisled basilica where transepts are lacking.[1] On the other hand, they are frequently found in three-aisled basilicas, even when the

[1] Such basilicas are found, however, at Orléansville in Algeria; Al 'Adra in the Hârat-az-Zuailah, at Cairo; in the Ḥaurân, etc.

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latter are of small importance. Transepts occur well nigh universally in Eygpt, while they are practically unknown in Syria. Thus there seems little uniformity in the manner in which they were employed, and their origin cannot be deduced from the evidence of the basilicas themselves.

Archæologists have consequently been obliged to resort to pure hypothesis to explain the appearance of these important features. Many and complex have been the theories advanced. The most plausible of these — although one by no means proved — suggests that the transept was adopted to provide additional room for the clergy.[1]

That the transepts were not designed with a view to purely architectural effect seems evident from the fact that the arch of triumph (so called, doubtless, in allusion to the Roman monuments of victory) was thrown across the nave of the basilica just in front of the transept, repeating the arch of the apse.[2] This curious feature so narrowed the vista from the nave as often to hide the transepts completely from sight (Ill. 43, 37), and always interfered seriously with any architectural effect the latter may have possessed. These arches of triumph, being made the center of interest in the Early Christian basilicas, were always the object of the most sumptuous decoration.

Another conspicuous feature often introduced into the Early Christian basilicas was the triforium gallery (Ill. 38). This was in effect a second story to the side aisles, opening on the nave by a second arcade directly over the first. In Egypt, where the sexes, as in all Early Christian churches, were separated, these galleries were used for the women, and in the West they may also have had a similar use. They seem to have been quite as sporadic in their appearance as the transepts. Although Herr Mothes has tried to prove that they were a later

[1] This is not the place to bring forward new and untried theories. I cannot, however, refrain from suggesting that the transept may have been derived from the prothesis and apodosis chapels of the East. At Kfêr and in the cathedral of 'Ammân these chapels were brought forward of the apse to flank the crossing. Compare also the chapel at Rbê'ah (Ill. 59). The step to forming a fully-developed transept, was a very short one. At S. Pietro (Ill. 35) which had one of the earliest transepts known to us, the wings were shut off by columns, so as to form rooms quite analogous to prothesis and apodosis chapels.

[2] In basilicas without transept this apse arch is sometimes incorrectly termed the arch of triumph.

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ILL. 37. -- Interior of Sta. Maria Maggiore, Rome. (From Dehio)

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development,[1] they seem to have been always known, and used or not used quite arbitrarily. Generally speaking, however, we seldom find them in very large or important basilicas. I know of few instances where they are found in a five-aisled church, and only rarely do they occur in a basilica with transepts.[2] In Egypt and the Ḥaurân they are very common; in northern Syria they are hardly known.

The typical eastern termination of an Early Christian basilica was the apse — a semicircle projecting from the rectangle of the church and covered with a half-dome. In the West there was usually only one apse, which was placed facing the nave. In the Eastern Church, however, great importance came early to be attached to the rites of the prothesis and apodosis, and it became the well-nigh universal custom to flank the main apse with two others, one facing each side aisle, and set apart to serve as chapels for these rites (Ill. 55, 62, 63, 64). The northern of the side apses was known as the chapel of the prothesis; the southern, as the chapel of the apodosis or diaconicon.[3] These lateral apses were usually square in plan, at least externally, and a difficulty arose in the exterior treatment of the east end. The effect given by a round apse, swallowed up, as it were, between two square ones, was not happy. Occasionally in Syria, this awkwardness was tolerated; but it was usual throughout the East to mask the central apse by continuing the walls of the side apses straight across, thus giving the east end externally a perfectly flat, unbroken wall, like that of a west façade (Ill. 64). This scheme of making a circular interior square exter-

[1] The triforium galleries of Sta. Agnese, f.l.m. and S. Lorenzo, f.l.m. are clearly part of the original structures.

[2] The apparent exceptions are S. Pietro in Vincoli and SS. Quatro Coronati at Rome. The galleries at both are probably later additions, however.

[3] "Both the diaconicon and the prothesis are, I believe, peculiar to the Eastern Church. The diaconicon — usually the southern of the three apses — corresponded to the modern sacristy. Vessels and vestments were kept there, and there the priests and deacons robed.

"The office of the prothesis is more difficult to explain. In the Eastern Church much attention was paid to the manner of offering the elements — bread and wine — to be consecrated during the technical 'liturgy.' A priest and a deacon performed the preliminary service with them in the chapel of the prothesis. After this they were left on this side altar until the moment in the liturgy called the Grand Entrance. Then the elements were carried in procession from the side chapel to the high altar. . . .

"How early there were ceremonial processions I do not know. They were certainly in use by 250." — Note kindly furnished me by Mr. W. H. Durham.

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nally had been a great favorite of the Romans, and, as we shall presently see, was much adopted by the Christians in their circular churches. However, it was a structural lie; and a better solution of the problem of the three apses was found by the Copts and the Syrians of the VI century, when the interior was frankly sacrificed to the exterior, and all three apses made rectangular (Ill. 55, 62, 63). Thus the external regularity of the east end was secured without structural falsification.

According to Mr. Butler, Syrian apses showed another striking peculiarity: "In almost every other example [except Behyō] in northern Syria, so far as the ruins give evidence, the eastern walls of churches are but one-story high, and the roofs which they carried, whether they covered a semi-domed apse or a rectangular sanctuary, abutted the high walls at a point only a little above the lower level of the clearstory, which stops at the line of the chancel arch."[1] This arrangement did not, however, prevail in the West. There the apse was as lofty as the roof of the clearstory permitted, the sanctuary thus dominating the entire building.

The type of plan with two apses — one at the east, the other at the west end, — is characteristic of the churches of Africa,[2] and is found in at least one instance in Egypt,[3] and once at Rome.[4] In the Egyptian example the western apse was pierced by the main doorway, and consequently could not have been used as a sanctuary, but must have been designed either merely for symmetry or as an unthinking reminiscence of earlier buildings. It is otherwise with the African examples. In Africa, as in Syria and Egypt, lateral entrances to the basilica were often the main portals, and the western apse seems to have enjoyed a dignity equal to that of the eastern sanctuary. These lateral entrances are not found at Rome, a fact which may explain the rarity of double-apsed churches there.

The earliest apses had no windows, but in the V century they were occasionally pierced by one, two, or three openings.

[1] Howard Crosby Butler, *Architecture and Other Arts*, p. 204.
[2] See churches at Orléansville, Chemtou, Aïn Tounga (Ill. 65), Fériana.
[3] Armant [Hermonthis].
[4] In the basilica of S. Andrea al Vaticano, built by Pope Symmachus (498–514).

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Ill. 38. — Interior of Sta. Agnese, f.l.m., Rome

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Later, the idea in a few instances was carried to such an extent that certain apses became practically open arcades of windows.[1]

Internally, the space within the apse, known as the bema, was reserved for the higher clergy. It was lined with a series of seats formed like steps rising towards the back.[2] In the center was the episcopal throne. In early times this was probably merely a pagan chair pilfered from some ancient building. It would be ornamented in the classical style with heads of lions, griffins, etc. Hence such decorations became conventional for the episcopal throne, even when it was manufactured especially for this purpose. Thus it resulted that in Rome the throne retained such ornamentation throughout the Middle Ages. Designs of this character appear in the thrones sculptured by the Cosmati in the XII and XIII centuries.

The most holy spot in the basilica building was what is known as the crossing — the great square formed by the intersection of nave and transepts — where the high altar was placed, and where were lavished all the resources of decorative art. Architecturally this portion of the church was dignified by the arch of triumph, erected, as we have seen, just before it. In churches without transept the high altar was placed directly beneath the great apse arch, which then served to accentuate the importance of the sanctuary.

The altar itself was usually a simple table of marble, ornamented with sculptured doves, lambs, vine-tendrils, etc. In many cases it was merely an ancient pagan altar, or funeral stone, being altered only by the introduction of the cross or monogram of Christ to serve as the symbol of purification amidst the sculptured garlands, flowers, and fruit.[3]

Over the altar, supported by four columns, was the ciborium, the most magnificently adorned of all the church furniture. To judge from the descriptions that have come down to us, those of the IV century must have been almost barbaric in their splendor. I paraphrase the account given in the Liber

[1] Examples at Rome, SS. Cosma e Damiano, Sta. Maria Maggiore, S. Sebastiano; at Naples, S. Severio.

[2] The cathedral of Torcello offers the only Early Christian apse retaining its original dispositions.

[3] Venturi.

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Pontificalis of the ciborium presented by Constantine to S. Giovanni in Laterano: "It was all made of silver. The columns carried a canopy, on the front of which was a silver figure of the Saviour, five feet high, weighing 120 pounds, and silver images of the twelve apostles, crowns in hand, each image weighing 90 pounds. On the opposite side, towards the apse, was the Saviour seated on a throne of purest silver, 140 pounds in weight, and four silver angels, five feet high, each 105 pounds in weight, with eyes of Alabanda stone and stars in their hands. The canopy itself, on which stood the angels and the apostles, all of silver, weighed 2025 pounds. The vault of the canopy was of the purest gold and a lamp of the purest gold hung from it, adorned with fifty dolphins. The lamp weighed 50 pounds, the chain 25 pounds. There were four crowns of purest gold adorned with twenty dolphins, and each crown weighed 15 pounds." Allowing as much as is evidently necessary for over-enthusiasm on the part of our historian, this ciborium was doubtless a work of the greatest magnificence. In smaller and poorer churches the ciboria must, of course, have been far more modest, and indeed the Liber Pontificalis itself in speaking of Pope Sergius states: "The ciborium of Sta. Suzanna, which before had been of wood, he made of marble." [1] Still, in general, the ciboria were doubtless most lavishly decorated, and marble seems to have been the material regularly employed. The usual ornaments were sculptured flowers, recalling the custom of strewing flowers about the altar. The ciborium, of which fragments still remain at S. Clemente in Rome, was erected by Mercurius (later Pope John II) in 514–523. Its decoration shows columns twined about with ivy and basket-capitals wreathed with vines. No trace of classic tradition remains in this Byzantinesque work, and it is remarkable how much earlier the new spirit shows itself in such ornamental details than in architecture properly so-called. Early examples of ciboria, as of all the primitive church furnishings, are extremely rare. Besides these fragments of the VI century in S. Clemente, we find few examples earlier than the X century. In the late Middle Ages, the type illustrated by the

[1] "Ciborium S. Susannae quod ante ligneum fuerat, ex marmore fecit . . . vel immobilia loca illi donavit."

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ILL. 39. — Interior of S. Clemente, Rome. (From Dehio)

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present ciborium of S. Clemente (Ill. 39), or of Sta. Maria in Trastevere (Ill. 40) was developed.

From the time of Constantine columns with spiral flutes seem to have been employed in the ciboria. In two medals published by De Rossi,[1] ciboria are shown with columns regularly twisted. Nor was this peculiarity of design confined to ciboria.[2] It had already been used as an architectural ornament by the Romans [3] and was frequently adopted by the Early Christians, especially in cases where the column was used as pure decoration, and not as a supporting member. Spiral flutings, especially in those extreme cases when the column itself becomes twisted out of all semblance of a column like a piece of soft molasses candy, are eminently unstructural, and are unpleasant if used in a structural manner. As a purely fanciful ornament, however, as they were later used by the Cosmati or by certain baroque architects, they possess an undoubted decorative charm. (Ill. 41.)

Beneath the high altar and below the level of the basilica lay the confessio or crypt, where was regularly placed the body, or, at least, some relics of the martyr or saint to whom the church was dedicated. Often this crypt was the original burying-place of the martyr whose tomb was preserved in its exact original location with scrupulous care. The confessio frequently had full basilica form, with three aisles and apse, and usually is found to be of earlier date than the main edifice. In rebuilding, the confessio of the old church was either preserved intact, or sometimes the entire primitive edifice was itself turned into a confessio.[4] To leave room for this crypt it was sometimes necessary to raise the floor of the presbyterium — that is, that portion of the church above, which was occupied by the clergy.[5]

In front of the altar and ciborium was placed the schola cantorum, or choir (Ill. 39). This was occupied by the lower

[1] *Bull. di arch. crist.* iii, 1869, p. 49 seq.

[2] At S. Pietro the columns by the Door of the Jubilee in the oratory of John VI were twisted. Twisted, too, were those erected by Constantine over the confessio: "Supra columnis purphyreticis et alias columnas vitineas" — *Liber Pontificalis.*

[3] In the Porta dei Borsari, Verona; in the building next the Tribune, Timgad; in the Colonnaded Street of Ḳal'at il-Mudîk; in the Propylæa of Aphrodisias.

[4] Rome, S. Clemente, S. Lorenzo f.l.m.

[5] Rome, Sta. Maria Nuova, etc.

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clergy, whose chief duty it was to sing the responses. Omitted entirely or of slight importance in the early church, this division later came into great prominence, occupying at times as much as half the entire nave.[1] It was divided from the western parts of the church by a marble screen, in early times probably not more than three or four feet high and quite similar to the ancient pagan balustrades and podia. In the V and VI centuries these screens came to be perforated with open work patterns, or ornamented with carved discs, crosses, and monograms. In the Coptic school the height of the screens was increased until they became veritable partition walls, entirely shutting off the choir from the nave. These Coptic screens were made of wood, and elaborately carved. Indeed it was primarily in the decoration of these screens that the Copts developed that peculiar style of ornament we always associate with their name.

Beside the screen separating the nave from the choir, there was another screen, called the iconostasis or pergula, separating the choir from the crossing and apse (Ill. 39). In the earliest times this consisted of ornamental columns connected by a continuous low podium below, and an architrave above. In the open spaces were hung veils, or light curtains. Thus the schola cantorum was enclosed on all its four sides.

On either side of the choir were the two ambos, or pulpits, — accessories which were used as early as the IV century, for we are told that S. Paolino ascended an ambo in order to preach to the people. In the VI century, however, the design of ambos seems to have been greatly developed at Constantinople. The new type was thence copied in the West, and all the ambos that have come down to us — like that of S. Clemente (Ill. 41) — are of this later Byzantine type. There were usually two stairways leading to the pulpit, though one was occasionally omitted. Beside the ambo was regularly placed a little column bearing a lamp (Ill. 41).

Before completing our survey of the interior of the Early Christian church a word must be said on the subject of the lighting. The interior, with its clearstory and aisle windows, is to-day a blaze of sunshine, so bright as to be positively distress-

[1] Cf. Rome, Sta. Maria Antiqua.

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Ill. 40. — Ciborium of Sta. Maria in Trastevere, Rome

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ing. Nothing impresses so strongly the modern visitor as this over-illumination. That the early Christians themselves were conscious of it, is shown by the fact that they often contrast the lightness of their churches with the comparative gloom of pagan temples. But it seems probable that in early times the light was more or less subdued by means of perforated stone screens placed in the windows. In Rome, where these perforations were probably left open, the tracery must have been similar in effect, though of course far inferior in design, to the marvelous pierced marble windows we find to-day in India, especially at Ahmedabad. But at Dêr Sêtā, in Syria, frames with pieces of open work attached to them were found in the windows. Though no pieces of glass were found on the spot, flat glass may be found in many other ruins of the country, and this tracery, though very much weathered, certainly shows grooves for the insertion of leaded glass, or some other translucent material.[1]

The exterior of the basilica was chiefly remarkable for the atrium or court which lay before the church. This atrium was regularly a square of the width of the church, and was placed westward of the main entrance. It was surrounded on all four sides by porticoes, usually formed of arcades. There are, however, many instances in Syria of an atrium having no such porticoes, while occasionally such an atrium was so extended as to completely surround the church — probably representing in these cases an ancient temenos, the church being built on the site of the old temple. In Syria, the atrium was also sometimes removed from the west end of the basilica, and placed instead before the lateral entrances on the south or north sides. Around the atrium were grouped the various ecclesiastical and conventual buildings which became necessary as the monastic system developed, until at length the atrium had come to contain in germ all the features that later made so lovely the cloisters of medieval Europe. A capital example is found at Bābiskā, Syria, dating from 401 (Ill. 60). This monument is, in fact, the earliest cloister known.

The Early Christian atrium was also the prototype of the

[1] Howard Crosby Butler, *Architecture and Other Arts*, p. 196.

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Mohammedan mosque. In the center was placed a fountain for the ablutions of the faithful, — a fountain, in the mystic eyes of the early Church, symbolizing the blood of Christ which washed away the sins of the world — and this fountain may still be found to-day, surrounded by its court and porticoes in every Moslem sanctuary. The atrium itself with its gardens [1] and colonnades and running water has long ago passed away — since the year 1000 new churches have been almost uniformly constructed without this feature so characteristic of primitive Christian art; and even the atria of the old churches, if not actually torn down, have seldom been kept in repair, and all too often have disappeared through sheer decay. Thus, even in well-preserved basilicas, we usually find to-day that the atrium is lacking,[2] and this unique and beautiful feature may be said indeed to live chiefly in its incongruous descendants, the cloister and the mosque. So general has been the destruction of the old atria that it is difficult to know how extensively they were used in the early centuries. It is probable, however, that they were omitted only exceptionally. The dispositions of a typical early atrium may be seen in the plan of old S. Pietro at Rome (Ill. 35).

Between the atrium and the main body of the church was placed a vestibule, known as the narthex. Here penitents, pilgrims, beggars, and others not admitted to the full communion might still enjoy the service. The narthex, which was also used as a judgment hall, and for various secular assemblies, after the VI century was commonly employed as a burial-ground. There were two sorts of narthex — the *exterior* narthex — as at old S. Pietro (Ill. 35) — which was formed by extending the arcades of the atrium across the façade of the basilica; and the *interior* narthex, formed by returning the side aisles across the western end, as at Sta. Agnese, f.l.m. (Ill. 38). In Egypt

[1] After the IX century these gardens came to be very elaborately laid out, and were known as the paradise or parvis.

[2] The most noteworthy atria still extant are as follows: — at Rome, S. Martino ai Monti, Sta. Prassede (both of the IX century), Ss. Quatro Coronati (1111), S. Clemente (1108); at Parenzo, the cathedral (VII century); at Milan, S. Ambrogio; at Capua and Salerno, the cathedrals (IX and XI centuries respectively); and at Fériana (Africa), the basilica. There are in addition many atria extant in Syria.

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ILL. 41. — Ambo of S. Clemente, Rome

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the interior narthex enjoyed especial popularity. The gallery above became the so-called "matroneum" — probably, in reality, not a place set apart for women, as the name would seem to imply, but rather reserved for persons of rank or wealth. In the West, however, the narthex was more often external. Hence, when the atrium disappeared, the narthex went with it, except in a few cases [1] where it was retained as a sort of portico (Ill. 52).

Otherwise there is little that is remarkable about the exterior of the Christian basilica. Constructed coarsely of stone or brick, these edifices marked the completion of the transition commenced by the Romans. The exterior was no longer a dominating consideration in architectural design; on the interior alone the efforts of the builders were lavished. The external effect, indeed, as a rule, was entirely neglected. Occasionally, as the provincial schools developed, a certain amount of exterior decoration showed itself, particularly in Syria and at Ravenna; but in the main, lack of external adornment remained characteristic of Early Christian art (Ill. 42, 52).

Such was the type of basilica developed by the Early Christians. If now the reader will bear clearly in mind the various peculiarities pointed out, and will turn to compare this type of building with the pagan basilica (Ill. 22), he will at once perceive that there is a striking resemblance between the two. The division into nave and aisles, the clearstory, the apse, the wooden roofs, the general proportions of length and width — all seem remarkably similar. Furthermore, the atrium recalls strikingly a forum placed like that at Pompeii (Ill. 22, Fig. 3) at the end of the basilica. Most remarkable of all, the very term "basilica" used to designate their churches by the Early Christians themselves, from times as early as the first half of the IV century,[2] seems clearly to imply that they recognized the close resemblance between the two structures. So strong did the evidence on this point seem, that from the time of Alberti, in the XVI century, until 1840, all historians of architecture roundly asserted that the Early Christians, finding the ancient

[1] At Rome; Ss. Vincenzo ed Anastasio alle tre Fontane (1140), S. Giorgio in Valabro, Ss. Giovanni e Paolo, S. Lorenzo, f.l.m.

[2] Some traces of its use are found in the records of the Diocletian persecutions in Africa, 303 A.D.

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basilicas well adapted for their rites, built their new churches on this plan, or else bodily converted old basilicas into churches.

Zestermann was the first to question this view. He pointed out the essential differences between the two types — differences that excavations since his time have gone far to define. First of all, he noted the fact that the aisles are returned across *both* ends of a pagan basilica;[1] in the Christian basilica, though we now know that they were sometimes returned across the west end, this was never done to the eastward. Consequently, the apse must have been a far different affair in the pagan building. Its roof was necessarily lower than the side aisles, and the entire semicircle must have formed, in fact, a room shut off from the rest of the structure. In the Christian basilica, on the other hand, the apse was a conspicuous feature of the interior of the church.[2] Again, the forum was usually placed at the side of the pagan basilica, and on the side were the principal entrances; the Christian basilica, on the contrary, had its atrium and main entrances usually at the end. Furthermore, the pagan basilica had usually two or more great apses, while the Christian rarely had more than one. But what chiefly distinguished the two types was their very nature. The pagan basilica was essentially a covered extension of the Forum, and the two words "forum" and "basilica" were used by the Romans interchangeably; it was a place of noise and bustle, of shops and bargaining, of business and gossip; it was, above all, a place of passage, little more than a covered street. This is strikingly illustrated by the number of entrances that are found in all the Roman basilicas that have come down to us, but especially in the Basilica Julia. How strangely at variance all this with the quiet and silence of a Christian church! It would seem as strange for the Early Christians to form their churches on the model of a basilica as it would, for instance, for the modern Christian Scientists to pitch upon a department store as the model for all their houses of worship. As for the idea of "converted" basilicas, that is clearly disproved by a

[1] The basilica at Otricoli is an exception.

[2] It has already been stated that in Syria the apses of basilicas are usually only as high as the aisles. In the main, however, this distinction holds.

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ILL. 42. — S. Apollinare in Classe, Ravenna

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study of the buildings themselves. There is no single instance extant where a pagan basilica has been used as a Christian church. Therefore, in view of all these differences (or such of them as were then known), Zestermann pronounced the Christian basilica to be an independent invention of the Early Christians and quite uninfluenced by the pagan type. These views were later sanctioned by Hübsch, whose authority lent them great weight.

Meanwhile, other scholars had been at work trying to deduce from the literary sources and from the history of primitive Christianity some indications of the origin and early form of the meeting-places of the cult. The results of these researches may be briefly summarized as follows. The earliest Christian assemblies, during the lifetime of Jesus, seem to have taken place in the synagogues which were freely opened at first to all "teachers." Soon, however, the hostility of the Jews drove the new sect from the temples, and forced it to take refuge in the private houses of its members. While the cult was spreading over the then known world, the house continued to be its usual meeting-place. But during the heat of the persecutions the Christians retired for safety to the catacombs, where their secret assemblies were held. The sect found protection in its resemblance to the Roman secret societies, organizations which possessed club houses or scholæ, and also exedræ or funeral cellæ (Ill. 32) in the cemeteries, where were celebrated the annual funeral feasts in honor of deceased members. It is established that the Early Christians possessed such cellæ, and the type as we know it from the five examples extant has been briefly described above (p. 48). That they also possessed scholæ has not been proved. During the periods of comparative freedom that intervened between the various persecutions, the Church prospered and its membership greatly increased; the houses became too small to accommodate the assemblies, and outside halls had to be built. That churches, as such, were erected as early as the II century is definitely proved from literary sources; and there is good reason to believe that the church building had taken its fully developed form, such as we find it under Constantine, at least fifty years before the time of that emperor.

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Working backward from these facts, Prof. G. Baldwin Brown some thirty years ago advanced a theory which derived the church from the synagogue.[1] The one thing we know definitely about Jewish architecture, is the negative fact that it possessed no fixed forms; and there is no reason to suppose that it often adopted the basilican type for its synagogues. Hardly more convincing are the alternative theories of the same author deriving the church from the funeral cella — which it resembles not at all — or the schola — a type of building little known but which probably consisted ordinarily of a small rectangle ending in an apse. An hypothesis which has found much wider acceptance was brought forward by Marchi and Martigny, and has been followed by Kraus. This derives all the later types of Christian building from the catacombs, in whose labyrinthian passages, indeed, are to be found chapels of almost any desired form. It does not seem probable, however, that these underground caves could ever have given the prototype for such a construction as the basilica with its lofty clearstory.

Of those to derive the church from the Roman house, Schultze was the first. He found the atrium of the basilica in the atrium of the house (Ill. 27, Fig. 6 *c*), the nave and aisles in the peristyle (*h*), the apse in the œcus (*j*). This theory on its face is improbable. The resemblance between the rooms mentioned and a Christian basilica could be imagined only by a German.

Most ingenious of all is the derivation advocated by Weingartner and Messner. It is founded on a passage of Vitruvius,[2]

[1] The earliest synagogues that have come down to us are found in Galilee. They were attributed by medieval Jewish pilgrims to the famous Cabbalist, Simeon Bar-Jochai, of the II century, A.D. (c. 135). It is not at all improbable that the tradition may be correct, for scholars agree in supposing these monuments to date from that time. They are oblong buildings, divided into aisles by rows of pillars. They do not seem to be especially orientated, nor are they turned towards Jerusalem. Indeed, save in the instance of Irbid, the doors are always to the south, so that the congregation turned their back to the Holy City. The double semi-pillars found commonly at one end of the building are thought to have been intended to support a gallery for the women. Synagogues are extant in Galilee, two each at Kefr Bir'im and Jîsh, and at Meirôn, Irbid, Tell Hûm, Kerâzeh, Nebratein, Umm el' Amed, Semmâka-on-Carmel and Sufsaf. The other early synagogues — at Alexandria, Rome, etc. — are known only from literary sources.

[2] "Nobilibus vero, qui honores magistratusque gerundo praestare debent officia civibus, facienda sunt vestibula regalia alta, atria, et peristylia amplissima, selvae, ambulationesque laxiores ad decorem majestatis perfectae, praeterea bibliothecae, pinacothecae, *basilicae non dissimuli modo quam publicorum operum magnificentia comparatae*, quod in domibus eorum saepius et publica consilia et privata judicia arbitriaque conficiuntur."

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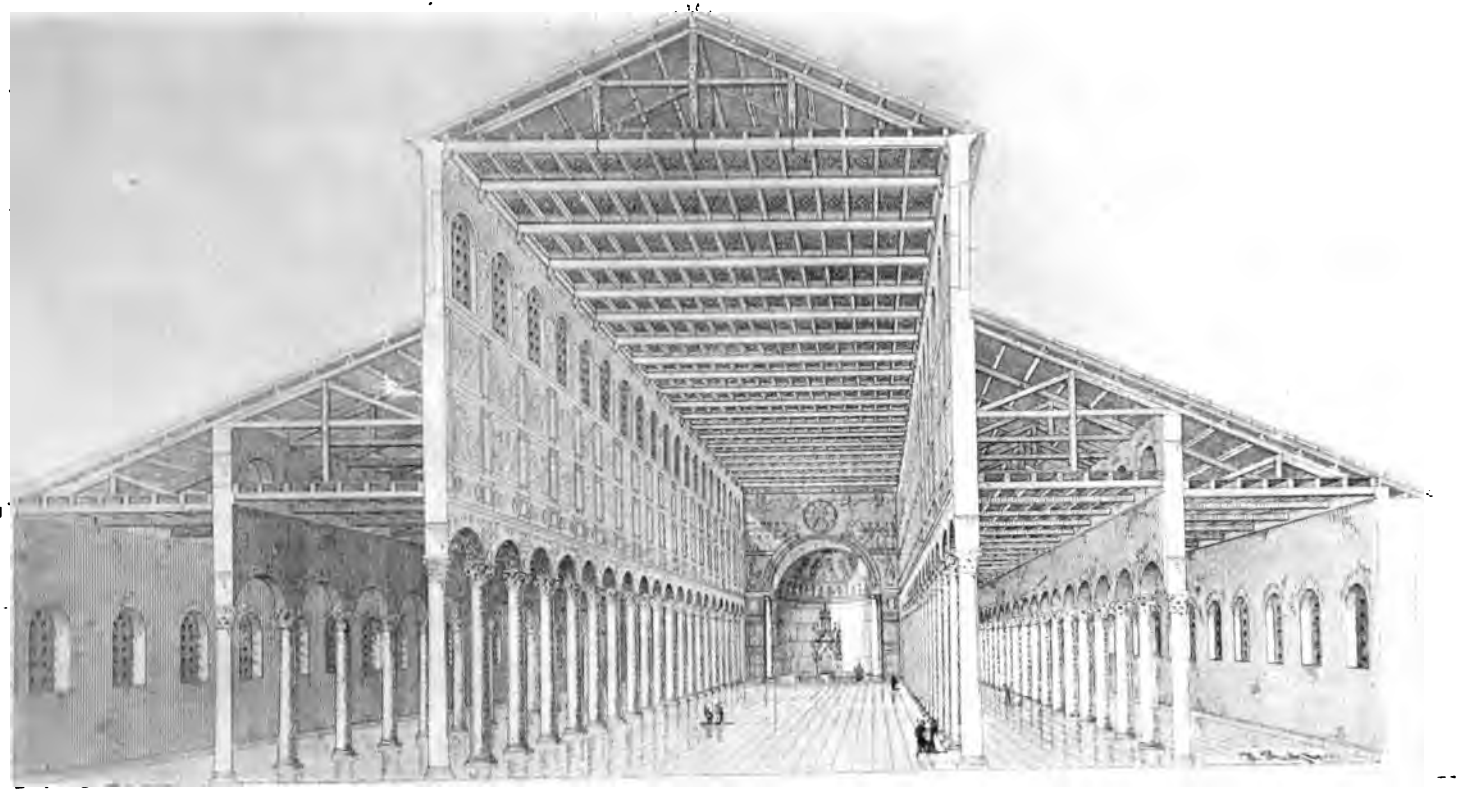

ILL. 43. — Perspective Section of S. Paolo, f.l.m., Rome. (From Dehio)

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which, in describing the houses of nobles, states that such structures should be supplied with private basilicas, not inferior in magnificence to public basilicas, because they were very often used for both public councils and private judicial hearings. Here, then, was a chance to reconcile the actual form of the Christian basilica with the fact that the early meetings took place in private houses. Naturally the dwellings of the wealthiest members would be selected, as being the largest, to accommodate the ever-growing congregations; and what apartment of the house would so naturally be picked out for such an assembly as the basilica. Thus all the analogies to the public basilica could be given an explanation at least plausible.

This theory, probably on the whole one of the most satisfactory yet advanced, has still its difficulties, which have been frequently pointed out. First of all, excavations have shown us that private basilicas were not by any means so common as Vitruvius would lead us to believe. Only one has been discovered, and that in the Palace of the Cæsars at Rome. None of the houses at either Pompeii or Timgad — both important provincial cities — was supplied with one. We must then infer they were to be found only in the palaces of the most powerful in the land. Such men did not belong to the Christian cult in its early years of struggle, nor in later times, when each small city had at least its half dozen congregations, were they sufficiently numerous that the private basilica could ever have been the usual place of Christian assemblies.

A final theory, proposed by the great scholar Dehio, has gained considerable acceptance, largely, it seems, through the authority of his name. This is really a revision of Schultze's idea. Herr Dehio sees in the atrium (Ill. 27, Fig. 6, *c*) of the Pompeian house the germ of the nave of the basilica, since the atria of the so-called Corinthian type have a court surrounded with columns, which might conceivably be the prototype of side aisles and a nave with clearstory. The alæ (*f f*) would give the transepts, the tablinum (*g*) the apse. He recognizes direct influence from the public basilica. This scheme explains the existence of the transepts — and is one of the few explanations worthy of serious consideration, that have been advanced to account for

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that puzzling feature.[1] But the entire idea, while not impossible, seems far-fetched and improbable. It certainly has been, in no sense of the word, proved.

So we come to the end of the great basilica controversy with the feeling that after all we are not very much farther along the road than when we started. The striking resemblances between the Christian and pagan basilicas remain, and none of the many attempts to derive the Christian church from other sources is entirely satisfactory. One important fact, however, has been conclusively demonstrated: the basilica type did not spring full-grown into being at the command of Constantine, but it had previously undergone a long course of development, although the steps of this are now entirely lost to us. In studying the various monuments of the IV and later centuries that have been preserved, and the remarkable, if futile, work of all the excellent scholars who have tried to trace their origin, the conviction is borne in upon me with ever-increasing force, that the various schools of Italy, Syria, Egypt, and Africa, are, as it were, sisters, derived from a common parent. From this ancestor they have inherited certain common characteristics, in which they all share; but also each has preserved from the parent certain features her sisters have failed to inherit. Such features would seem to be the double apses of Africa, the returned west aisles of Egypt, the lateral entrances and single-storied apses of Syria. If now, from the characteristics of the children, we should try to restore the parent, joining to their common features such peculiarities of the prototype as the individuals may be supposed to have separately preserved, — we should deduce a building (with the significant exception of the returned eastern aisle) precisely similar to the pagan basilica. The Christian church in some one of its types, preserves practically every distinctive structural feature of the latter building.

Why, when, and where, the pagan basilica came to be adopted as the prototype of the Christian church, it is impossible to say. Accidents have more than once turned the scale in architectural history. The makeshift of the masons at Caen established the

[1] It is certainly a curious coincidence that basilicas are supplied with transepts much more frequently in those provinces where the Roman house had regularly been furnished with alæ.

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type of vault for many of the most important French cathedrals. The first, or the first important, Christian congregation to build a church may by pure chance have occupied or made over a secular basilica. Since it was found well adapted for the purpose of the cult, the same type may have been adopted by the second congregation when the second church came to be built; and so the type would soon become established by tradition.

In this connection it should be remembered — as many archæologists have failed to do — that Rome in the early centuries by no means occupied the commanding ecclesiastical position she was later to acquire. Her bishops may have been the equals, but they certainly were not the superiors of the bishops of Antioch, Alexandria, or Carthage. In the East, as in all the far provinces, the rigor of the persecutions was less relentless than at the capital; consequently the Oriental church developed more rapidly. It is well known that monasticism and many other important ecclesiastical institutions were brought from the East to the West. In the East was the first bloom of Christianity, and here must the origin of the basilica — a characteristically *Greek* type — be sought.

The second type of building erected by the Early Christians was the circular church. Circular temples, as we have seen, had been built by the Greeks (Ill. 4, Fig. 6) and Romans (Ill. 13, 23). The Early Christians did not adopt these types without change, however, and the question of their derivation offers doubtless quite as wide an opportunity for controversy and ingenious theorizing as does that of the basilica. Of far less importance than the latter, the circular church has received correspondingly less attention.

In the West, the circular building was usually used for a baptistery, and it is at present the fashion to derive the round church from the circular hall, or calidarium, of the Roman thermæ (Ill. 25). Why the room of the hot bath, instead of the cold or lukewarm, should have been selected, does not appear. This theory on its face seems to have little but unconscious humor to recommend it. However, the entire subject is so involved that it is impossible to speak with confidence. Only two facts bearing upon the question seem to be established: the

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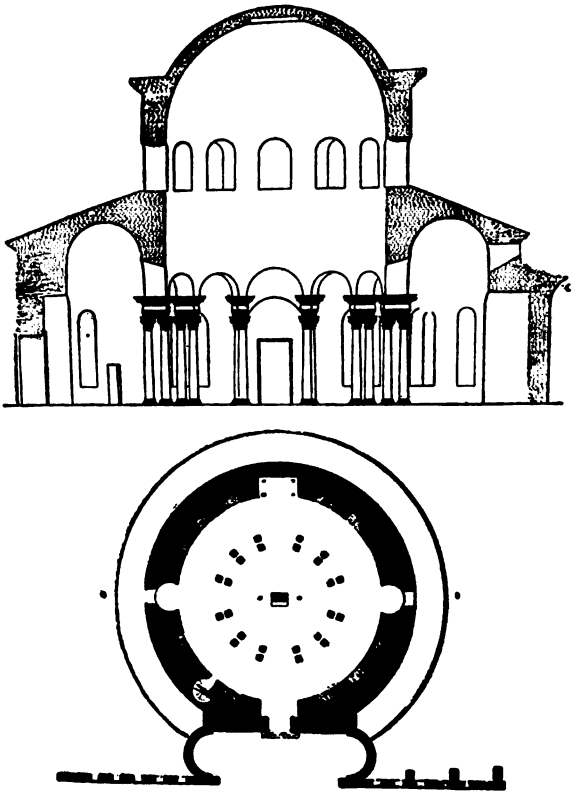
first, that the circular church was probably a western development, but very few circular churches earlier than the V century having come down to us in the East;[1] and the second, that there is no indication of such church having existed before the time of Constantine.



Ill. 44. — Plan and Section of Sta. Costanza, Rome. (From Canina)

The great innovation introduced by the Early Christians in the circular type of building was the addition of side aisles. The Romans had never made use of this device. They had, however, frequently surrounded their circular edifices with deep niches and Dehio sees the origin of the aisles in doorways cut from one of these niches into its neighbor. That is going rather

[1] St. George at Salonica is, I believe, the single exception. It is known from literary sources, however, that the churches at Antioch and the early Hagia Sophia were circular. The Church of the Holy Sepulchre at Jerusalem is an edifice too exceptional in character to be classed as a circular church.

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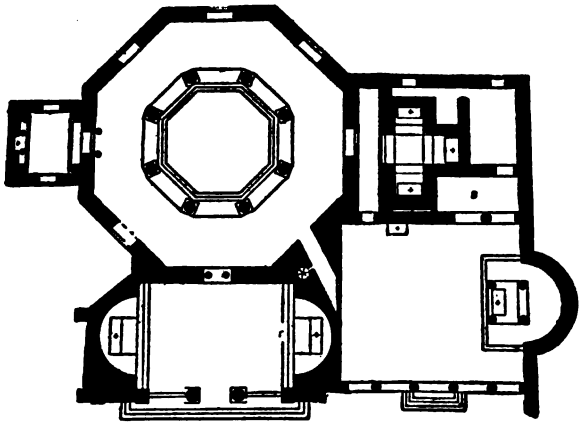
far afield. Analogy with the basilica form undoubtedly offers a sufficient and easier explanation of this innovation.

By no means all circular churches were supplied with side aisles, although this form was preferred. (See Ill. 44, 45, 46, and 47.) Similarly, the nave, while usually covered with a dome, in certain cases — notably S. Stefano Rotondo at Rome — was merely roofed with wood. Wherever the dome was employed, it was usually covered externally by a low roof of tiles to protect it from the weather, thus essentially changing the exterior appearance of the building.



Ill. 45. — Plan of the Baptistery, S. Giovanni in Laterano. (From De Rossi)

Much as the dome was appreciated as an architectural feature, the Early Christians seem to have strongly felt the undesirability of a circular ground plan. A plain cylindrical building crowned by a dome is not only normally of little architectural interest, but in a city is wasteful of land, for, since city lots are naturally rectangular, a circular building cannot be set upon one without making useless the corners of the lot. So there early began a struggle to discover a method of setting a circular dome on a polygonal or square substructure. This problem the Early Christians never fully mastered, although at Zor'ah and Ravenna they made substantial progress towards its solution.

The usual manner in which the difficulty was avoided is

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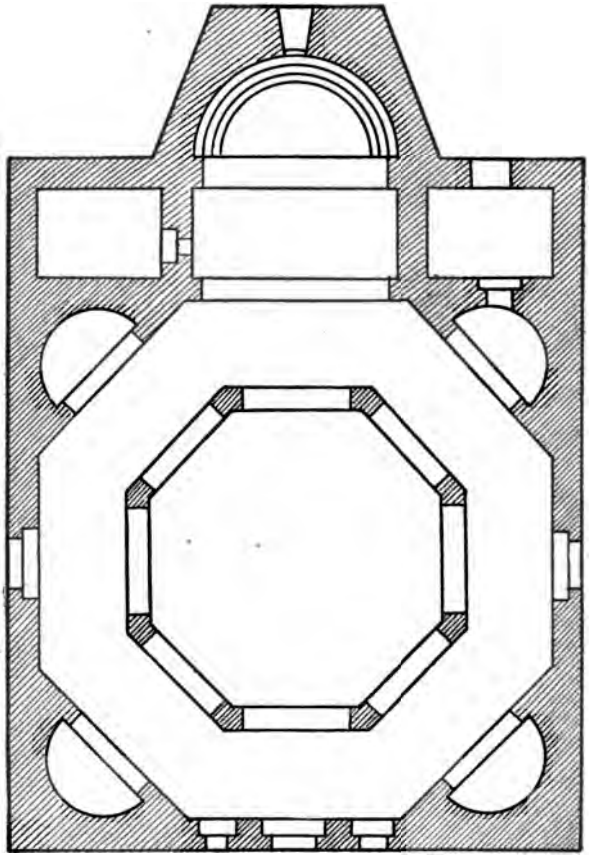
illustrated in the plan of St. George of Zor'ah (Ill. 47). Here it will be seen that the octagon of the dome is carried down in the plan of the main arcade, which is surrounded by an aisle. But the aisle, octagonal on its inside edge, by means of niches, walls of varying thicknesses, and other devices is made externally to fill out a rectangle. This scheme, though often carried



ILL. 47. — Plan of St. George of Zor'ah

out with great ingenuity, is really nothing but "faking" a round building to make it look square, and shows much more sense of cleverness than of artistic propriety. It was undoubtedly a reminiscence of Roman methods of design.

The problem was much simplified when, as was usually the case in the West, the circular church was used for a baptistery, and not for the celebration of the ordinary offices; in a

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ILL. 46. — Interior, S. Giovanni in Fonte, Ravenna.

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baptistery, there was no need of an apse, and the location of the font under the central dome was given its becoming architectural emphasis. When the circular building came later, in the East, to be used as a church, the case was altered. It was impossible to place the altar in the center of the building, since tradition and natural instinct demanded that the altar should be at one end. Accordingly an eastern apse was constructed; but the feeling remained that the altar, which should be the center of interest in the church, was shut off in a relatively unimportant excrescence to the building, while the dome, which instantly caught and fixed the spectator's attention, covered the least holy part of the edifice (Ill. 47). This difficulty was later minimized by the Byzantines, but has never been completely solved.

Of the great schools of Early Christian art, none is so deserving of close study as that of Italy. It was the Italian basilica that became the model for all medieval western art, and in themselves the Early Christian churches of Rome and Ravenna are better preserved and more beautiful than any of the same period extant in Syria, Egypt, or northern Africa.

Of original sculpture, the basilicas in Italy show hardly a trace. Built entirely of pilfered materials, these monuments can rarely boast of even a single moulding newly cut. At most we find a few crude representations of the labarum (Ill. 61, the figure enclosed in a circle on the lintel in the upper right-hand corner), the Greek cross, or some monogram carved among the ancient decorations. Doubtless the altars and other church furniture showed more elaborate plastic decoration, such as we find on sarcophagi, but of these none has come down to our day.

The glory of the Italian school, however, was its mosaics. No other accessory art — with the single exception of stained glass — is of such beauty in itself and at the same time so perfectly architectural in character, as mosaic. This decoration, which was used lavishly to accentuate the importance of the apse and arch of triumph, was often continued also in the triforium space, or between the clearstory windows; in fact, over

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the entire wall surface, until the church was completely aglow with that soft and luminous splendor that is peculiarly the property of this decoration.

There are three different varieties of mosaic that should be carefully distinguished.[1] The *opus sectile* was employed by the Romans in the late Empire, and was occasionally used to decorate Early Christian edifices as in the famous arcade of Sta. Sabina, or in the well-known figure of S. Pietro in Vincoli, both at Rome. The characteristic of this species of mosaic is the fact that each piece of marble is cut to a definite shape to occupy a certain position. If, for instance, a tiger should be represented, the form of the tiger would be entirely cut out of a single piece of yellow marble, inlaid on a dark background, consisting also of a single piece of marble. The tiger's stripes would each be a separate black slab, cut to the desired shape, and inlaid on the yellow body. This method of mosaic is so difficult of execution as to more than counterbalance any advantage in the freedom of design it affords.

Opus alexandrinum had been extensively used by the Romans, especially for floors, and by them had been raised to the highest rank as a decorative art. It consists of many cubes of marble of various colors, all of the same size and fitted together to form the desired design. Naturally this method gives a certain stiffness to the curves of a pictorial representation, but this, however, even increases the architectural character of the ornament. By the Romans this method had been applied to purely conventional, as well as to pictorial, designs with equal success. It was seldom used on the walls, but was a favorite decoration for pavements. The Christians adopted the *opus alexandrinum* from the earliest times. Certain important tombs among the catacombs of Rome show pavements and even wall surfaces decorated with mosaics of a classic type. Later this ornament was borrowed for the adornment of churches.

Numerous examples of this art have come down to us in the Early Christian basilicas — at Rome excellent types may be found in the churches of Sta. Costanza (early IV century),

[1] There is much divergence among authorities as to the terms for designating the various mosaics. I have adopted what on the whole seems the simplest classification.

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ILL. 48. — Mosaics of Sta. Costanza, Rome. (From De Rossi)

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ILL. 49. — Mosaics of Apse, Ss. Cosma e Damiano, Rome. (From De Rossi)

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Sta. Pudenziana (end of the IV century), and in the beautiful design of volutes and foliage which adorns one of the apses of the ancient portico of the baptistery of S. Giovanni in Laterano (end of the IV or early V century). The mosaics of Sta. Costanza (Ill. 48), thoroughly typical of this period and method, are purely pagan in design and technique. The patterns show interlacing vines, vintage scenes, and similar compositions treated in a thoroughly classical spirit.

The third and most important species of mosaic which is known as *opus græcanicum*, is purely an Early Christian art, and in its general principles quite similar to *opus alexandrinum*, except that the cubes are slightly larger and, instead of being of marble, are of glass. Through *opus græcanicum* became possible those ravishing effects of color we always associate with Early Christian mosaics, for the glass possessed a luminous quality of color quite impossible to obtain in marble. The early artists excelled especially in producing a deep blue, whose pure serenity has been equaled only by Gothic stained glass, while an intense expression of golden splendor was obtained by laying thin leaves of gold over a red background.

The mosaics in *opus græcanicum* flourished at Rome, except for a single interruption, from the IV century to the Renaissance. Their history is a fascinating study. The earliest examples are vigorous and good in drawing, although already that defect which marred the works of the first half of the V century begins to be felt — a certain monotony and rigorous symmetry of composition. The subjects represented after the middle of the IV century are usually strictly ecclesiastical, and we here enter upon that splendid series of pictorial representations of Church and Bible history later destined to glorify and be glorified by the arts of sculpture, painting, and stained glass. Saints and martyrs in endless procession gaze serenely upon us from triforium and clearstory, while apse and arch of triumph are glorious with scenes drawn from the Old and New Testaments. It is noticeable, however, that the sufferings of the passion are never represented before the VI century.[1]

[1] There is a noticeable return to the style of classic art in the mosaic of the vault of the oratory of the baptistery of S. Giovanni in Laterano, dating from the last half of the V century.

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Byzantine influence first becomes evident in the Roman mosaics of the VI century. The earliest example where it is distinctly shown is the great apse mosaic in the church of Ss. Cosma e Damiano (Ill. 49). The early part of this Byzantine period, whether at Rome or at Ravenna, was the high-water mark of Christian mosaics. Under Byzantine influence, the figures were drawn in good proportions, and posed in noble attitudes. The draperies were simple, yet dignified. All the monuments of Ravenna furnish noble examples of this period, which reached its culmination towards the end of the VI century. Soon after there began a rapid decline. The figures became stiff, awkwardly elongated, and the draperies excessively rich, in imitation of the costumes of the Byzantine court. Examples of this type may be seen at Rome in the arch of S. Lorenzo, in the apses of S. Teodoro, Sta. Agnese, and S. Stefano Rotondo. The art of mosaic leaving farther and farther behind its primitive ideals, now advanced with rapid strides towards its extreme decadence. Its last phase is represented in the mosaic of S. Marco, the final example — the death agony — of this primitive art (Ill. 50). After this, for more than two centuries and a half, the noble decoration seems to have passed out of use. There exists no trace of any mosaics executed in Rome during this period.

In the XI century the art of mosaic, so long forgotten in Italy, revived, thanks to the school founded at Rome by the mosaic-workers summoned from Constantinople to Monte Cassino by the Abate Desiderio in 1066. These Greek artists were more or less inspired by Byzantine models for their principal figures, but clothed them often in the Latin fashion. The decorations imitated the charming designs in flowers and foliage with birds and animals, that we find so often in the mosaics of the IV to VI centuries. To this Italio-Byzantine period belong the mosaics of the apse of S. Clemente, the façade and apse of Sta. Maria Maggiore, and many others.

But the Roman mosaic-workers emancipated themselves little by little from the rigid and conventional forms of the Byzantine school. This movement began towards the end of the XIII century, chiefly under the influence of Giotto. The

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ILL. 50. — Apse Mosaic of S. Marco, Rome. (From De Rossi)

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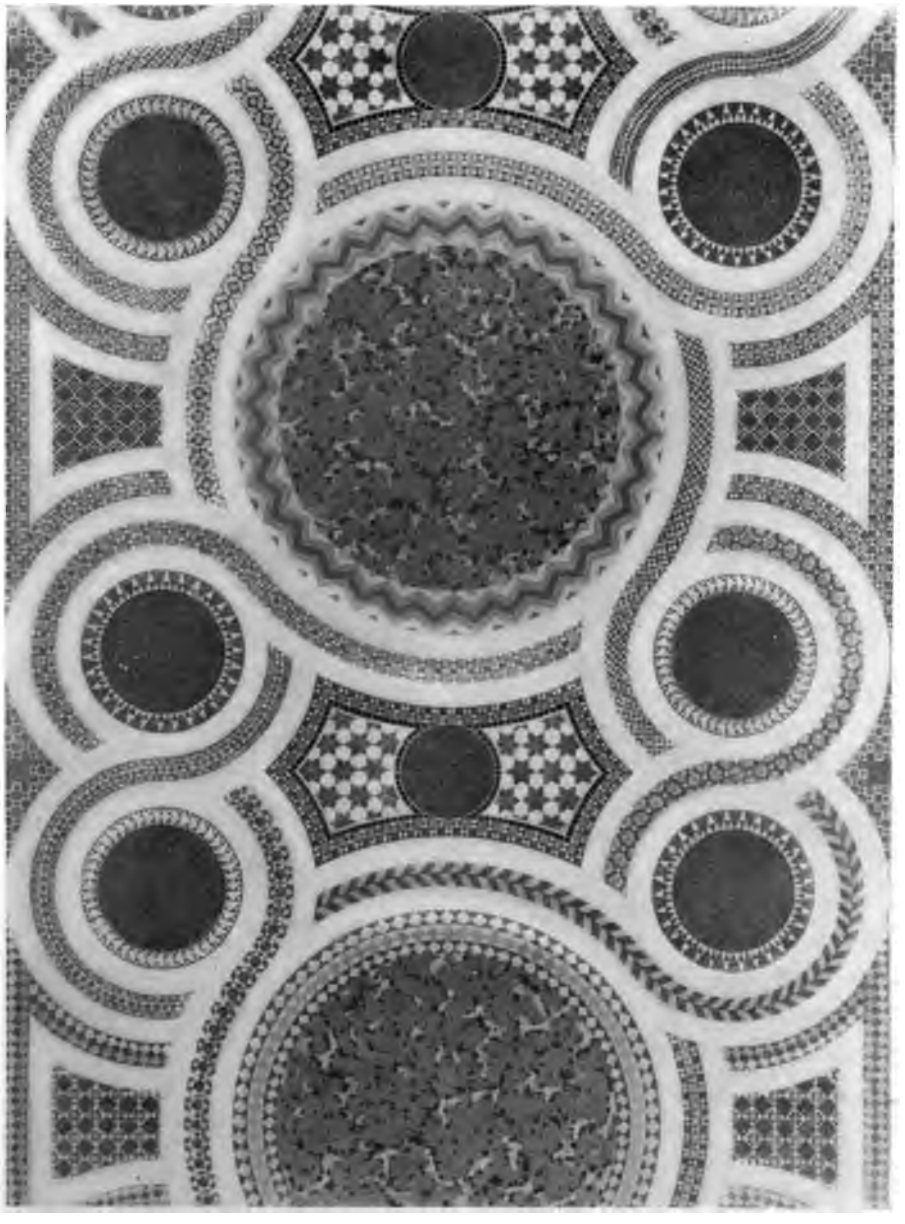

ILL. 51. — Cosmati Pavement of Sta. Maria Maggiore, Rome. (From De Rossi)

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traditional types became more supple — the hard lines were softened, the draperies fell in more natural folds. Yet, until the middle of the XIV century, the mosaics betray the persistent influence of Byzantine tradition, as, for example, Pietro Cavallini's composition in the apse of Sta. Maria in Trastevere. The works of this artist, like those of Mino da Torrita and Filippo Rusuti, who decorated the apse of S. Giovanni in Laterano and the arcade of Sta. Maria Maggiore, mark the moment when Italian art enters the era of the Renaissance.[1]

The Early Christian mosaics in pure design are second in interest only to the figure mosaics. Executed in *opus græcanicum*, they sometimes supplanted figure mosaics even in the great apses. Decorative borders occur also in many of the figure mosaics. The patterns used are usually the Vitruvian scroll, together with monograms or volutes. Rinceaux and garlands are also common, but most used of all is a new motive, consisting of alternating squares and circles (shown in the border of the S. Marco mosaic, Ill. 50). As a rule, there is little chronological development noticeable in these decorations, although after the XI century, a design consisting of alternating circles and diamonds becomes common.

In the vault of the oratory of S. Zenone in Sta. Passede at Rome is inlaid a porphyry slab. This slab seems to be a sluice cut out of an ancient column, and marks, perhaps, the first step in the formation of that school of mosaic-workers who appeared in Rome in the XII century, and are known from the name of the family which excelled in this handicraft as the Cosmati. The basis of their peculiar designs were such round slabs of colored marble. About them they turned flowing and interlacing guilloches of mosaic in compositions of the most ravishing loveliness. These bands of mosaic were composed in turn of various square and star patterns, interesting and varied in themselves. This Cosmati work made use of a combination of the methods employed in *opus alexandrinum* and *opus græcanicum*, small pieces of both glass and marble being combined. But, instead of all the pieces being cubes, some were triangles, and others were cut in various different shapes. Thus great

[1] Cf. Gatti's Introduction to De Rossi's *Musaici*.

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freedom of design was obtained. These charming works of the Roman artists, wedding at once sculpture and mosaic, combining *opus sectile* with *opus alexandrinum* and *opus græcanicum*, must rank with the greatest achievements of purely decorative art. During the XII and XIII centuries this lovely ornament unwound its graceful curves in countless ambos, ciboria, scholæ cantorum, altars, friezes, façades, and pavements throughout southern Italy and Sicily, but especially at Rome. Our illustration (Ill. 51), though of course giving no idea of the rich color of the original, will still serve to suggest the inexpressible grace and loveliness of the design.

Side by side with mosaics, paintings and frescoes were used in Rome as mural decorations. We have early examples in the churches of S. Paolo, f.l.m., Ss. Giovanni e Paolo, and Sta. Maria Antiqua. Judged from a purely decorative standpoint, painting is an art less adaptable to architecture than mosaic; and the latter seems to have been generally preferred, especially for the more important parts of the buildings, such as the apse. Still painting undoubtedly played a large part in Early Christian architectural decoration — a much larger part, in fact, than its scant remains would lead us to infer. Its history and development form a chapter of the history of art quite as long as that of architecture itself, and too well known to require summary here.

In singular contrast to the eventful history of the accessory arts in Italy, especially that of mosaic, was the course of Early Christian architecture itself. In fact, its leading characteristic may be said to be its utter lack of progress. The supply of classic ruins from which convenient materials might be pilfered was well-nigh inexhaustible, so that the builders were able to continue indefinitely the old methods of construction, and were not forced, as in the North, to invent for themselves new forms where classical columns should not be required. Furthermore, the very conservatism of Rome opposed any change in the traditional and time-honored types. Hence it came about that for twelve centuries the basilica remained essentially unaltered.

The slight changes that took place may, in general, be

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Ill. 52. — Façade of S. Giorgio in Velabro, Rome

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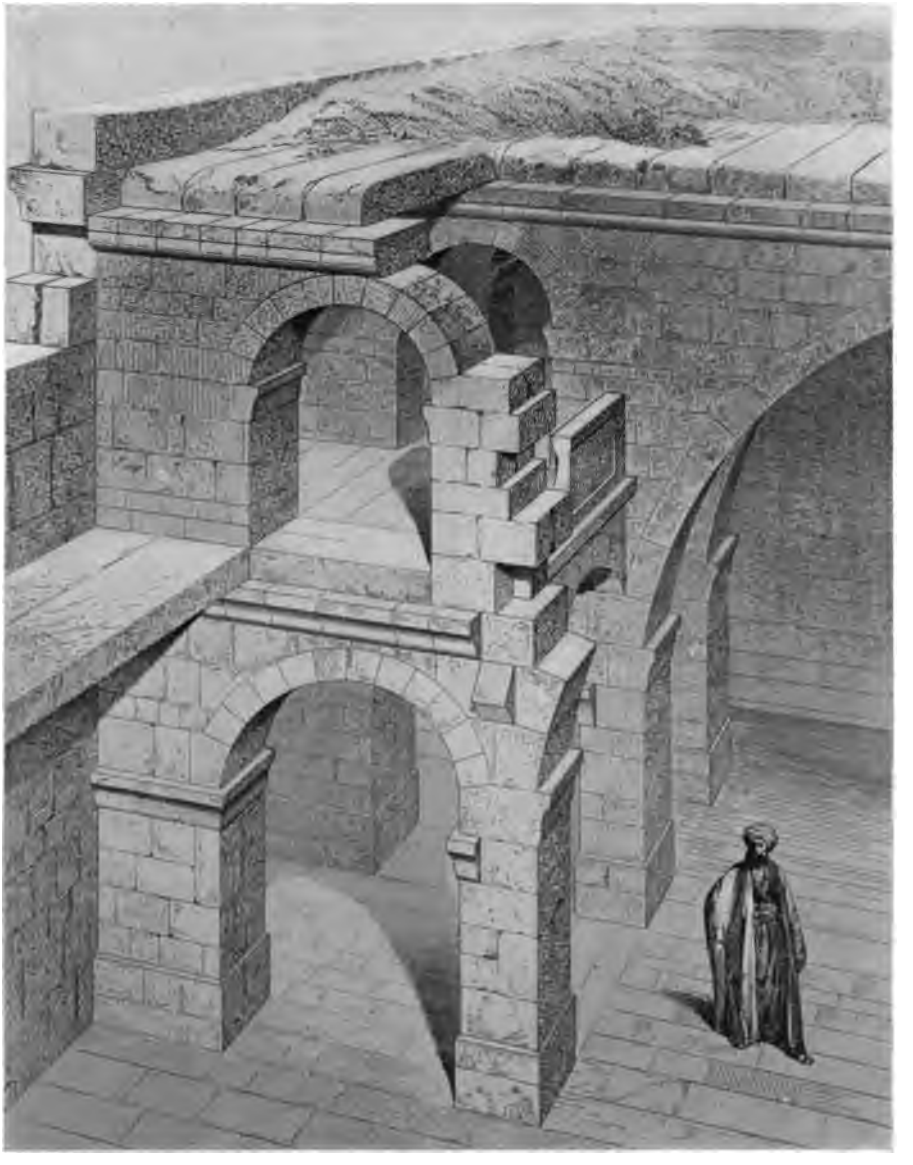

ILL. 53. — Basilica at Chaqqa. Perspective of Construction. (From De Vogüé)

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stated in a few brief sentences. Atria gradually passed out of use. In the IX and X centuries the decay of technique fell to its lowest depths, but in the XII and XIII centuries it again revived.[1] In certain churches rectangular piers were substituted for columns in every two or three bays, and at Sta. Prasseda transverse arches spanning the nave were sprung from such piers.

One, and only one innovation of importance was made: — the introduction of campaniles or bell towers. The subject presents singular obscurities. At Ravenna, round towers (Ill. 42) were erected at an unknown date (perhaps in the VII or VIII century), in the neighborhood of the basilicas, but directly connected with them, if at all, only by means of underground passages. The purposes of these towers is up to the present an unsolved enigma. They certainly have the external appearance of being towers of defense; but it is hard to see how they could have effectively served this purpose within a walled stronghold like Ravenna. At all events they seem later (IX century) to have been imitated at Rome, — only here they reappear in square form, and undoubtedly served as campaniles, or bell towers. These campaniles were adopted by all the mediæval Italian styles, undergoing for the most part no further change. They always remained square towers of brick, deprived of architectural adornment save for the windows which were spaced so as to be more numerous towards the top. The campanile regularly stood detached from the church,[2] thus forming a totally separate piece of architecture. These towers, by their very simplicity, acquire a sort of quaintness and charm. Few features of the Italian landscape impress themselves more vividly on the traveler's remembrance than the campaniles, with which the countryside is everywhere dotted (Ill. 52).[3]

[1] Roman architecture remained to the Renaissance unconscious of the progress of its neighbors. In only two churches — S. Antonio and S. Tommaso in Formis — is there a trace of Romanesque influence, and in only one — Sta. Maria sopra Minerva — of Gothic decoration.

[2] S. Giorgio in Valabro at Rome and S. Ambrogio at Milan, with perhaps a few other instances, are exceptions.

[3] The origin of campaniles has been lately much discussed. Sig. Venturi believes that they were intended originally to serve as lighthouses. Sig. Gardella, the most recent writer on the subject, refutes this strange idea by showing that many of the earliest examples were not near the water. He goes on to argue that they could have been erected only to serve as bell towers,

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Ravenna not only gave to Italy the campanile, but also gave a splendid impetus to art through the Byzantine monuments there erected in the VI century. As we shall see, this influence later bore very rich fruit in the Lombard Romanesque. At Rome the strength of the Byzantine influence is unmistakable, although the use of pilfered materials prevented its manifestation in architecture. How thoroughly Byzantine the Roman mosaics became in the VI century, has already been remarked, and this same tendency is equally unmistakable in the carved ornament of this time. It is possibly open to question whether this influence may not have been exerted from Constantinople directly, as well as through the medium of Ravenna.

The Syrian school of Early Christian architecture is of such interest not only in itself, but because of the circumstance that it anticipated to a remarkable extent the later developments of Western art, that it must be briefly described, although it cannot be considered as having directly influenced Romanesque architecture in Europe.[1] Unfortunately, however, it is in many ways a singularly difficult and complex subject to treat in the brief space that can here be accorded it.

It is necessary to distinguish three main sub-schools of Syrian art: the first, which is found in the region about the Djebel Ḥaurân, we may call the southern school; the second, or northern school, centers in the Djebel il-A'la and the Djebel Bārîshā; the third, or central school, in the Djebel Rîḥā, and adjacent regions.[2] The school of the South is quite distinct; even in

and consequently cannot have come into use before the IX or X century, large bells not having been used before this. Comm. Rivoira takes substantially this same position, which, on the whole, carries conviction. No one believes longer in Cattaneo's ascription to the VI century of the campanile of S. Satiro, Milan. M. Enlart, however, (*Manuel d'archéologie française*, p. 174), cites two texts which seem to show that the date for the introduction of bell towers must be placed at least as early as the VIII century. One, from the Liber Pontificalis, states that the popes Stephen II (752–757), Hadrian I (772–795), and Leo III (795–816), placed bells in the towers of the Vatican basilica. The other, the chronicle of the abbots of Fontenelle, mentions, while speaking of Prévôt Tentsindus, who held office from 734–738, that he had made a bell to be placed in the tower, as is usual in churches. *Campanum in turricula collocandum ut moris est ecclesiarum.* (Pertz, M. G. H., Scr. t. II, p. 284). See also below, p. 160.

[1] Many eminent scholars, however, and especially Viollet-le-Duc have seen a direct connection between the two.

[2] Including the Djebel Sim'ân.

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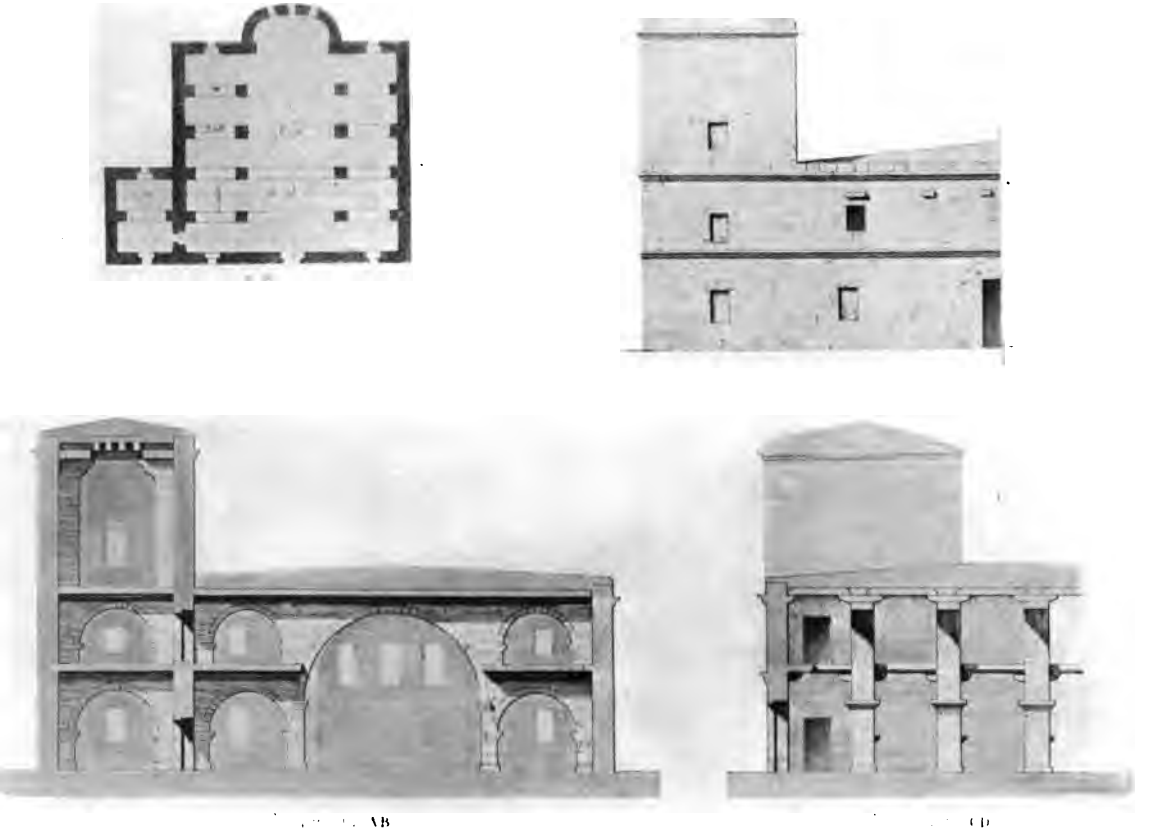

ILL 54. — Basilica at Ṭafḥā. (From De Vogüé)

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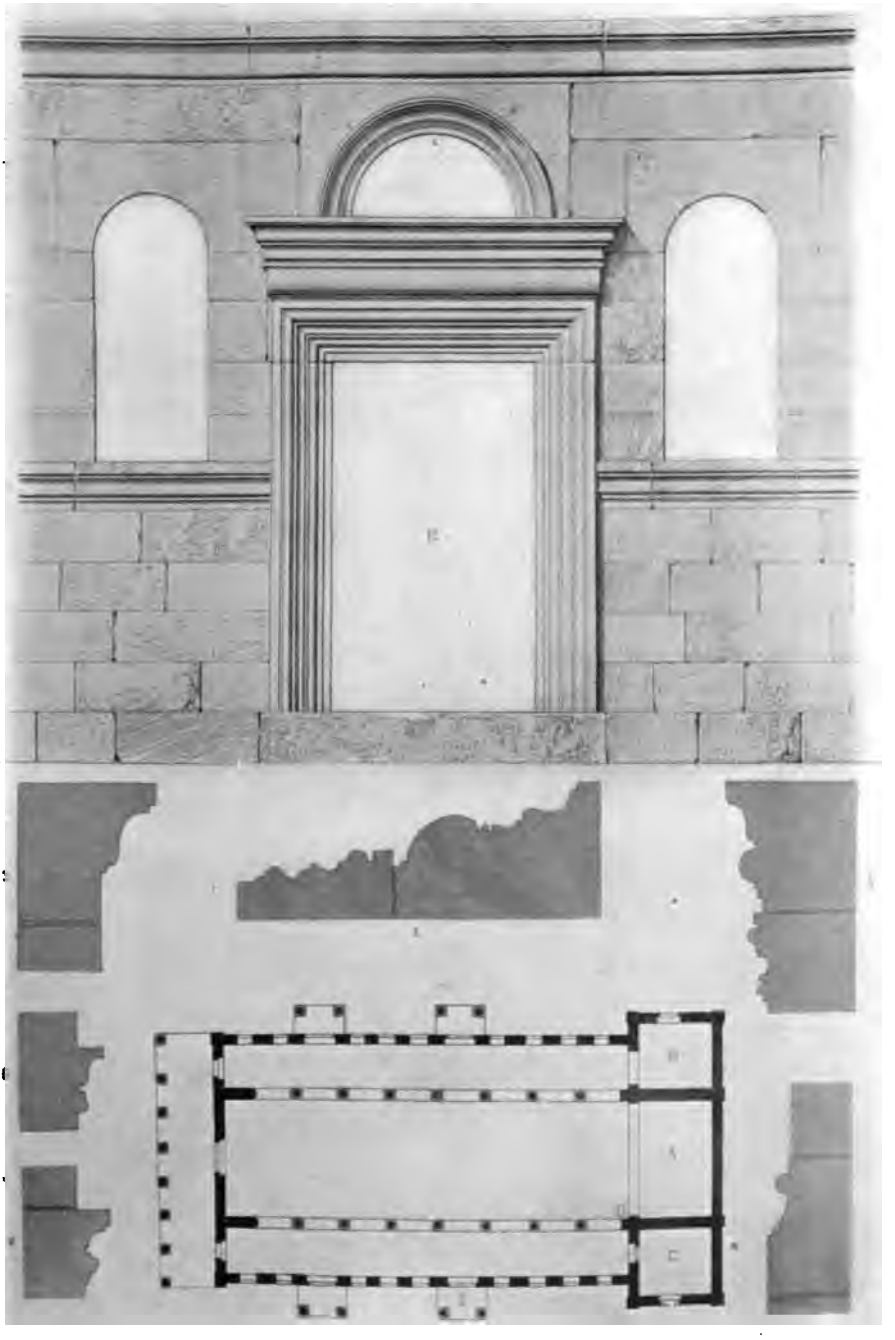

Ill. 55. — Basilica at Hâss. (From De Vogüé)

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Roman times its buildings had shown strongly localized tendencies, which, by the IV century, had become so developed that for the most part its monuments present few analogies with those of the West. The school of the North, on the other hand, was distinctly Latin, or, as Mr. Butler will have it, Greek. The school of the Center, while more closely allied to that of the North, still frequently betrays relationship with the South, although with the characteristics borrowed from its neighbors, it also combines certain traits that seem to be original to itself. But these originalities are in turn sometimes borrowed both by the North and the South. Thus the three schools continually overlap, and the difference between them, while evident, is extraordinarily difficult to define.

This difficulty is further increased by the growth of the schools, which show distinct phases in the IV, V, and VI centuries. We have, therefore, in all, nine distinct styles to account for, a number still further increased by the fact that the same school in the same century will often exhibit two or three synchronous types.

The school of the South is characterized above all by the use of a stone roof, called the "Syrian vault," whose nature can be best understood by reference to Illustration 53. Transverse arches — one of the great discoveries of western architecture four centuries later — are thrown across nave and aisles, and support a stone roof of lintel construction. The plan of Ṭafḥā (Ill. 54) shows a typical church of this school of the Ḥaurân. Monuments of this class have regularly a single apse, or sometimes no apse at all, no clearstory, galleries, and a nave divided from the aisles by a row of piers [1] instead of columns. The mouldings and decorations are of the simplest type, or are omitted altogether. Generally the entire structure was covered by a Syrian vault. To judge from the buildings that have been published up to the present, this school of the South, which promised so well, showed far less real growth and progress than its sisters; in fact, according to Mr. Butler, the history of the style is one of continuous decline. In the VI century, nevertheless, a very interesting type of circular building came into use

[1] For definition of a pier see below, p. 166.

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in the Ḥaurân. The plan of one of these, St. George at Zor'ah, we reproduce in Ill. 47. It is interesting to note that on the walls of this church were discovered traces of plaster, which Mr. Butler believes to indicate ancient decoration with mosaic and fresco. These circular churches were roofed with domes of concrete.

Passing now to the northern school, we find the Latin basilica the typical form of church building. The aisles were separated by columns,[1] and roofed in wood; the nave was provided with a clearstory (Ill. 60). There were always three apses; the main entrances were often on the sides. The details of carving were at first classic, of a debased sort, rapidly becoming Byzantinesque (Ill. 61). Columns on arches were regularly employed, although the flat architrave is sometimes found as late as the V century.[2] The narthex is rarely at the west end, but is often placed to the north or south, and turned into a sort of portico, especially in the single-aisled churches (Ill. 59, 60).[3] Arcuated lintels are commonly used instead of arches (Ill. 55); galleries are never employed. Circular buildings do not occur, baptisteries being either square or on the basilican plan. Towers were often built in several stories over the lateral apses.

As time went on, the style developed certain marked peculiarities. The mouldings, which at first had been sparingly used, were later incised, and finally assumed characteristic profiles; in the VI century they came to be twisted into those unique forms which we may call the Syrian and volute moulding motives, shown in Ill. 57. About the same period the central apse was made square internally instead of semicircular (Ill. 55).

In the Center, we find two distinct types of church. The first, which finds its highest expression in the great conventual establishment at Ḳal'at Sim'ân, follows essentially the school of the North in general structure as well as in decoration. Yet

[1] Yet in some of the churches bordering on the desert piers were employed, probably because the construction was in basalt, a material so hard as to be difficult to work into the form of columns.

[2] At Bṭirsā.

[3] I am indebted to Mr. Howard Crosby Butler for his kind permission to reproduce these plans from *Architecture and Other Arts*.

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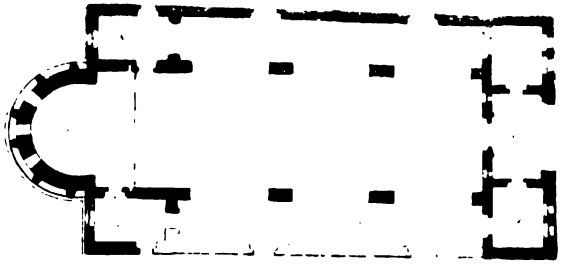

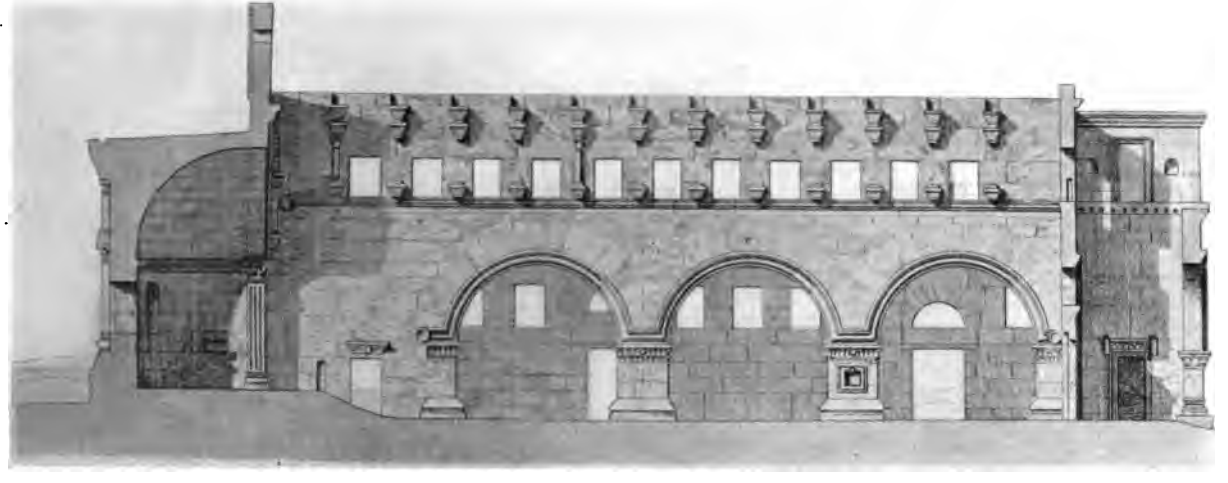

ILL. 56.—Basilica at Kalb Lauzeh. (From De Vogüé)

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Ill. 57. — Façade of Basilica at Kalb Lauzeh. (From De Vogüé)

Ill. 58. — Apse of Kal'at Sim'ân. (From De Vogüé)

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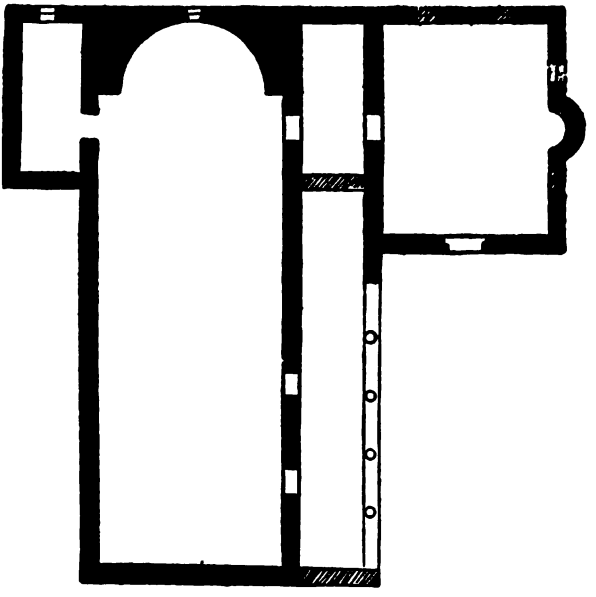
these churches developed one feature peculiar to themselves and of the highest interest: that curious decoration of the exterior of the apse with colonnettes and corbel-tables (Ill. 58), presaging so strangely Romanesque France.

The second type of church, which is peculiar to the Center, though several times imitated in the North, is the most interesting of all the varied types developed in Syria (Ill. 56). The nave and aisles were separated no longer by columns but by



Ill. 59. — Plan of Chapel at Rbê'ah. (From Butler)

massive piers supporting great arches. The aisles were covered with the Syrian vault of the South, and the nave, though still roofed in wood, was, in at least one instance,[1] spanned by great transverse arches. Most remarkable of all, the façade was flanked by two towers, terminating each side aisle (Ill. 57). The section of a basilica, if frankly expressed in the façade, is unpleasing, and we shall later see that one of the happiest ideas of the western Romanesque builders was to flank the nave gable by twin bell towers. Strange, indeed, to find this same solution anticipated in Syria by nearly four hundred years!

[1] Ruwêha.

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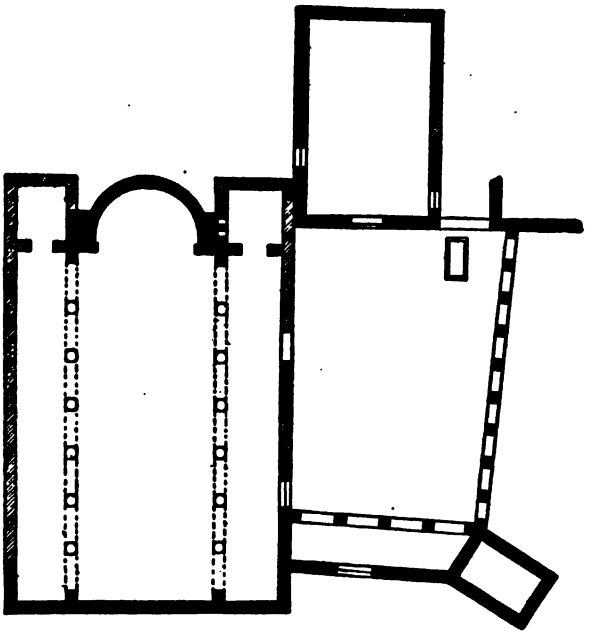
These façade towers of the school of the Center, together with the Syrian mouldings of the North, and the Syrian vaults of the South, form the most salient peculiarities of this interesting architecture.

Less striking, and sadly neglected alike by traveler and archæologist, the timid and retiring Coptic architecture of Egypt deserves far more notice than has yet fallen to its lot. It is a



Ill. 60. — Plan of East Church at Bābiskā. (From Butler)

singularly difficult architecture to approach, for its monuments have never been adequately studied or described, and many of them doubtless remain entirely undiscovered. Those that we know, moreover, are for the most part without indication of date. In a style that has existed from the IV century to the present day there is often nothing to show whether a given monument be ancient, medieval, or modern.

With this total absence of dated monuments it is impossible to trace any development in the style, and difficult to say whether

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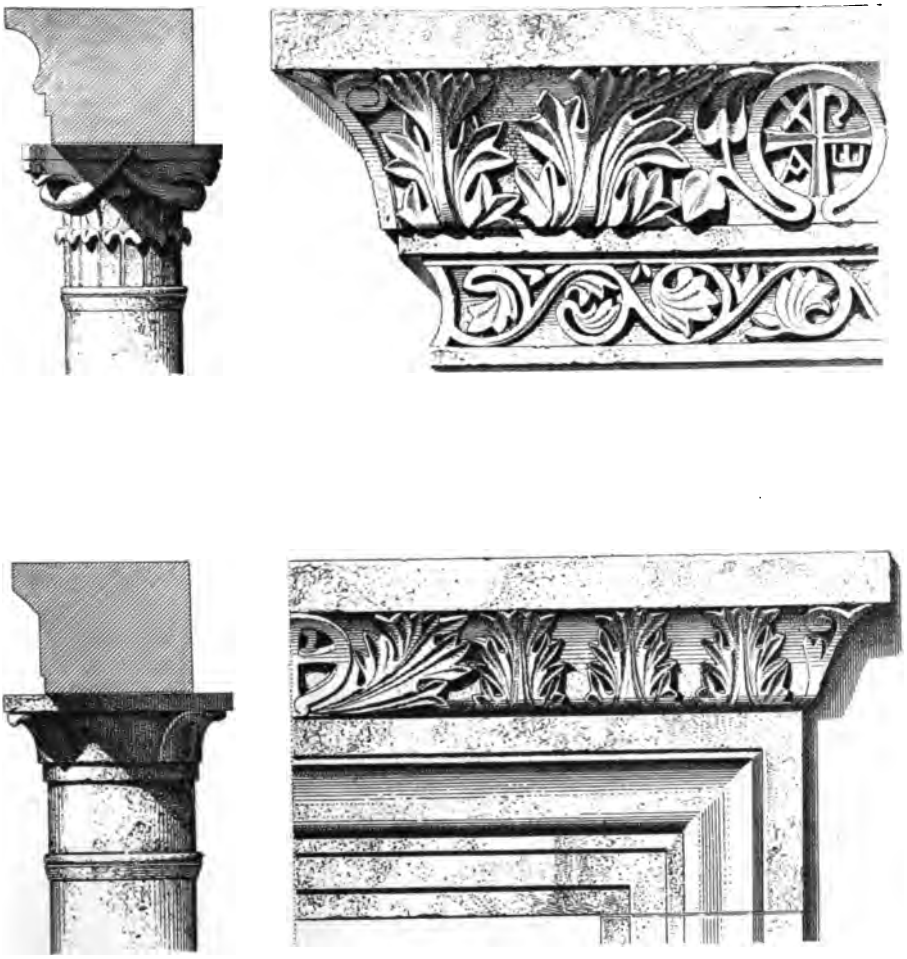

ILL. 61. — Syrian Carved Ornament from Houses in Serdjillā. (From De Vogüé)

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the widely divergent types of building we sometimes find side-by-side in the same monastery are to be explained as reflections of the style of conflicting local schools, or as constructions of different ages.

The first characteristic of Coptic churches that strikes the student is their small and unostentatious character. The Coptic sect was conquered and oppressed, if not actively persecuted, before their architecture reached its maturity; — a fact to be read in the dark, small churches, approached through tortuous passages, and often externally quite hidden from sight by surrounding buildings. Even in the great desert monasteries, hundreds of miles from the nearest settlements, the exterior is always as inconspicuous as possible.

The second characteristic was induced by the peculiar climate of Egypt. The heat and blinding sunlight of the desert made the generous lighting of a Western basilica intolerable. Consequently the clearstory was omitted, but, to preserve the traditional difference in height between the aisles and nave, galleries were employed almost universally. Light was often admitted only through holes in the roof. Egypt is a treeless country and, consequently, the construction was largely of stone; but when wood was obtainable it was largely used, even to the extent of building imitation vaults, and it was regularly employed to form the architraves for columns pilfered from ancient or Arabian buildings.

The Latin or basilican plan was always followed, although treated freely (Ill. 62, 63, 64). The roof, however, was essentially modified, being regularly furnished with from one to twelve domes (Ill. 62–64) — a feature possibly borrowed from Constantinople.[1] These domes were placed particularly over the haikal, or apse, which, as in Syria, was flanked by the chapels of the prothesis and apodosis. In some of the earlier churches these apses were placed in a trefoil, instead of being alligned.[2] It is a remarkable fact that with the single exception of the church

[1] This is the conventional, if questionable, view. The scarcity of wood in Egypt would seem to offer a sufficient explanation of this construction.

[2] "A deep apsidal haikal, with recesses all around it and columns close to the wall, may almost infallibly be dated to the age of Constantine." (Butler.)

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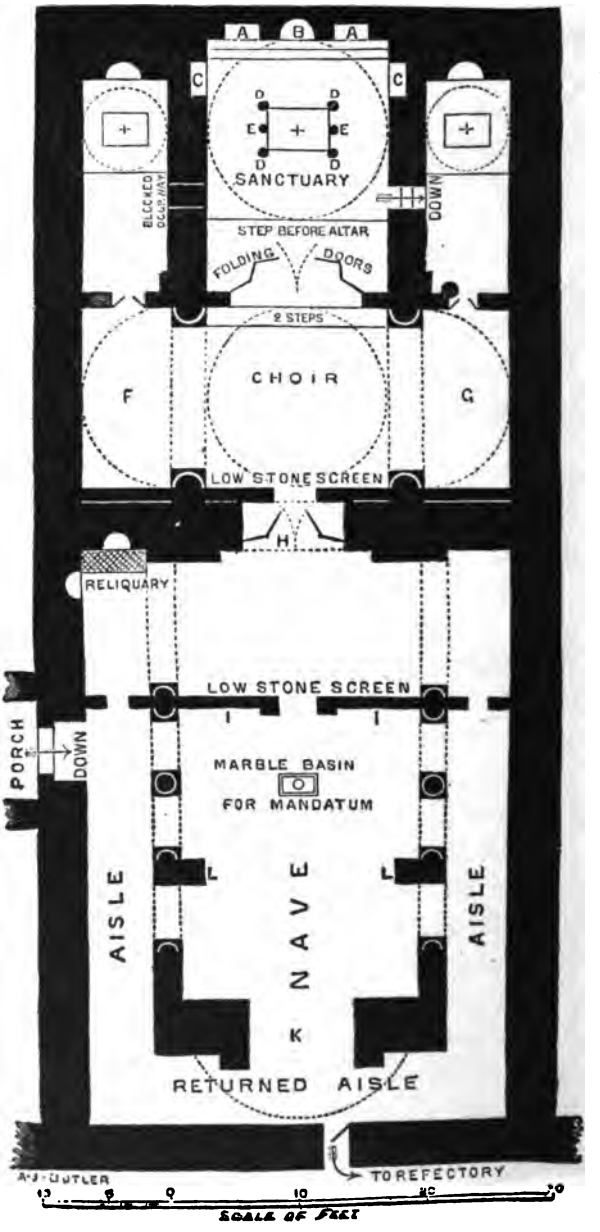

ILL. 62. — Plan of Dair-as-Suriâni. (From Butler)

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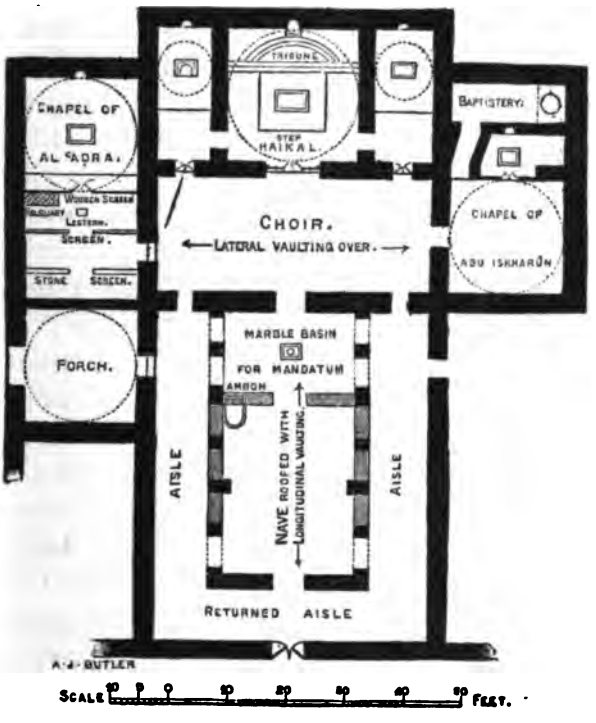
at Dair-al-Malâk there is known no instance of an atrium in a Coptic church.[1]

The most remarkable development of Coptic art is found in the desert monasteries of the Wady Natrûn valley. In these solitudes where no wood could be obtained the churches must, perforce, be built entirely of stone. Consequently, the roof was constructed of barrel vaults and domes. These barrel vaults show



ILL. 63. — Plan of Anba Bishoî. (From Butler)

the systematic employment of the pointed arch, and in at least one instance,[2] were provided with ribs regularly profiled. Thus, here again do we find the Early Christians anticipating the Romanesque of the south of France, and one is almost tempted to believe that the Coptic pointed arch may have been adopted by the Arabs from the Egyptians, and not newly discovered by the

[1] A fact sadly militating against the prevalent theory which derives the court of the Mohammedan mosque from the *Coptic* atrium.

[2] Dair-al-Baramûs.

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former as is generally held; and that thence by the agency of the Pilgrims and the Crusades it passed into Occidental art. But it seems more reasonable to suppose that we are here dealing merely with an example of coincidence. Like causes led to like results. A pointed arch is at once stronger and more beautiful than a round one — a fact which happened to be discovered independently by several peoples.

A word should be said on the subject of Coptic decoration before leaving this branch of our subject. In his plastic art the Copt had early shown his aversion to the models of Rome and Constantinople, a sentiment taking root in his avowed hatred for his Roman masters. Thus when he had to make sculptures to serve for the new Christian cult, he showed a profound dislike of the Greek models he must copy, and at the same time a technique beneath criticism. After a century of fruitless effort, he gave up the attempt, and sought in the abstract line the impression he desired to produce. Step by step these angular figures became less and less human forms and more and more polygonal designs. Soon the abstract line ceased to imitate; the human face became only an ellipse, the nose was represented by a rectangle, and so forth. The body became intertwined and confused with leaves, foliage, polygons, rosettes, and ended at last by disappearing entirely in these ornamental forms. From this time on, purely ornamental compositions became the favorite theme of the artist. The decorator, given the task of adorning the flat surfaces of the sanctuary and choir screens, and of placing everywhere upon them the sign of his faith, had recourse to groups of simple geometric figures, squares, circles, lozenges, in the center of which he inscribed the cross and other symbols of primitive Christianity. To these decorations were then added the conventionalized figures; the surfaces were covered with foliage and polygons, among which the cross is ever conspicuous.

This polygonal decoration, which soon reached great geometrical complexity, seems to have exercised a strange fascination over the Eastern mind. With the Copts, however, it never went further than those forms capable of giving directly the sum of four right angles — that is, the number of sides of the

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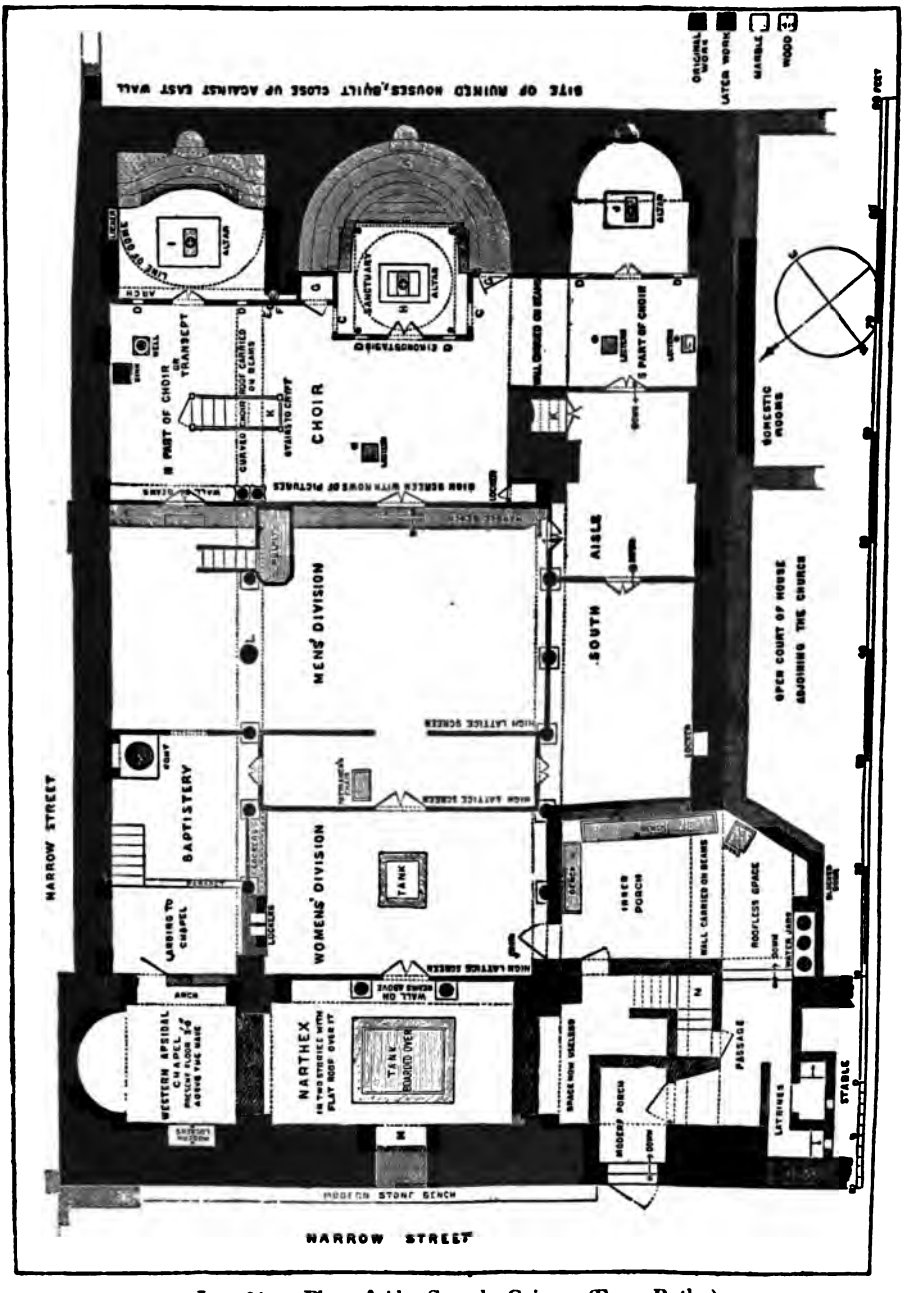

ILL. 64. — Plan of Abu Sargah, Cairo. (From Butler)

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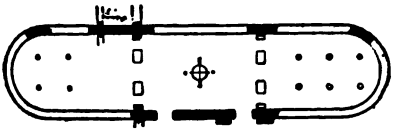
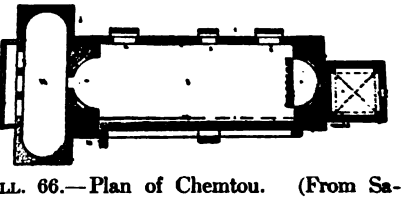
polygon was always an even number. The decoration reached its zenith in the wood screens of the Dair-as-Suriani, and forms the basis for all the wonderful polygonal ornament of the Arabs.[1]

Even more obscure than Coptic art in North Africa is the Early Christian school of architecture, for, in addition to being difficult of access, its monuments are sadly ruined, and usually have left us only fragmentary traces of their foundations. The Early Christian style in Africa seems, however, to have come into being at the flood tide of the Constantinian renaissance. The school is equally remarkable for the retention of classic forms and details, and for its extremely fine masonry. The African churches are most strikingly distinguished as a class from those of Italy by their double apses and lateral entrances. (Ill. 65, 66.) This school came to a sudden end with the Vandal invasion of 420.



Ill. 65. — Plan of Aïn Tounga. (From Saladin)

The Early Christian style represents essentially an epoch of decay, an epoch when classical proportions were debased and forgotten, when the builders, too ignorant or too indolent to seek their own materials, made their structures a hodge-podge of stones and columns pilfered from ancient constructions; when the technique of building was sinking to its lowest depths. And yet, amidst all this desolation, there are certain things for which the Early Christians deserve great artistic credit. The mosaics of the VI century, due, it is true, to Byzantine influence, and perhaps surpassed by the works of that school, are still masterpieces of their kind, and worthy in themselves to rank with the



Ill. 66.— Plan of Chemtou. (From Saladin)

[1] Gayet.

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best achievements of ancient art. Of the Cosmati decorations of the XII and XIII centuries no words can express the loveliness, the freshness, the luscious color.

Nor does the ancient basilica itself, despite its crudeness, despite its lack of finish, despite even the air of desolation that to-day oppresses so many of these time-worn sanctuaries, lack a very real charm. The silent, flower-grown atrium with its porticoes and fountains must have been calculated to produce on the sensitive mind a wonderfully restful impression, and seems with great appropriateness to have been placed between the house of worship and the noise and bustle of the street. The basilica itself echoes this spirit of serenity so characteristic of the primitive Church. All the worldliness, the ostentation, the vulgarity of the Roman style has passed away. No colossal portico of marble columns marks the entrance. The exterior walls show plainly, frankly, what they are — crude constructions of brick. No attempt is made at exterior adornment, yet time has given these venerable walls a mellowness that often makes them not only inoffensive, but actually full of charm.

Within the church, the interior, almost overflooded with light, is more richly ornamented. But here, too, the old Roman coarseness has vanished. The mosaics throw a radiance of color that would redeem a far more awkward design, and the pilfered classic columns lose their grandiose effect by being yoked with unsymmetrical fellows. In a word, the Early Christian style, decadent and slovenly and dying as it was, still gave birth to a new spirit, unknown to the facile Roman technicians, and that spirit was the feeling for poetry.

This spirit must rank as the highest contribution of the Early Christians to medieval architecture. Never quite lost sight of in all the darkest of the Dark Ages, it reawoke to glorious development in the XII century. But not only for its sense of beauty was the later age indebted to the primitive Church. The basilica, bequeathed to all future Christians as the authoritative type of church, was a building not only marvelously well adapted to its purpose, but one which bore within itself undreamed-of possibilities of development. When the Early Christians added aisles to the circular building of the ancients, they

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made possible the triumphs of Byzantine architecture; and, finally, by placing arches directly on columns, they took the first step in the evolution of the great vaulting systems of the Middle Ages.

In the last few years certain archæologists have brought into much prominence the churches of Asia Minor. The Christian monuments of this country show widely different characteristics in different localities, and, moreover, like the Coptic churches of Egypt, are extremely difficult to date, so that, until the many points still at issue in regard to this most interesting group of edifices are cleared up, it is almost impossible to know whether to class them as Early Christian, Byzantine, or mediæval. At Saglassos there is a basilica which conforms very closely to the Latin type, and this fact is of significance because at the neighboring cities Aspendos and Kremna are found pagan basilicas which seem to foreshadow the forms of the Christian church more closely than any other pagan basilicas that have come down to us. For the most part, however, the churches of Asia Minor are of a radically different style. Many of them are barrel-vaulted — a characteristic recalling the Coptic churches of Egypt as well as the Romanesque structures of southern France. The apses were regularly given a horseshoe plan, apparently from as early as the V century A.D., and strangely enough the half-domes of these apses were also horseshoe in section. The chapels of the prothesis and apodosis are found in churches situated near the Syrian border, but are not usual in churches of the central and western provinces. Columns appear to have been discarded in favor of piers at an early date; in certain edifices such as Selme, there seems to have been a regular alternate system. The exterior string-courses are frequently arched in the Syrian manner, and a zig-zag or chevron ornament, strangely analogous to the well-known Norman motive, frequently occurs on the archivolts. Certain Cilician churches, recently described by Miss Bell, are provided with most remarkable east ends, a retro-choir with two apses, communicating directly with each side aisle, being constructed directly behind the main apse. Although the east wall of the retro-choir is always rectangular, this construction

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seems to foreshadow the Western ambulatory. That any direct influence, however, can be traced between these Eastern schools — whether of Northern Africa, of Egypt, of Syria, or of Asia Minor — and the Romanesque architecture of the West I very much doubt. It is perhaps too soon to speak with decision, for the question is still before the archæological courts, and as yet our knowledge of the monuments of Asia Minor and Egypt — the very premises of the argument — is extremely slight; moreover Strzygowski's thesis has certainly been strengthened by Dr. Guyer's recent researches among the primitive churches of Switzerland. Yet, after all, his work leaves the impression that the undoubted analogies between the monuments of the East and West are to be explained as instances of parallel development rather than as either having directly influenced the other.

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CHAPTER III

BYZANTINE ARCHITECTURE OF THE FIFTH AND SIXTH CENTURIES

AT the same time that Early Christian architecture was pursuing its unprogressive course throughout the Empire of the West, in Constantinople and the regions adjacent a new and far more vital style was being born. It is by no means easy to describe exactly the geographical boundaries which separated this new Byzantine art from its western rival, for only a small part of the Eastern Empire adopted the style of the capital. Certain provinces, such as Egypt and Syria, continued distinctly Latin in their architecture, while others, like Palestine, show a mixture of Latin and Byzantine influences. On the other hand, influence from Constantinople flowed freely into the West, modifying profoundly the decorative arts of Rome herself, while Ravenna, now the capital city of Italy, was conquered by Byzantine art long before the armies of Justinian appeared before her walls.

Since the Early Christian and Byzantine styles were thus constantly shading into each other, it is often impossible to determine in which class to list buildings which stand on the border line between the two. Notably is such the case with the monuments of Ravenna. To avoid this difficulty certain historians have considered Byzantine art as merely a local school of the great Early Christian family, — a view that, while certainly logical and convenient, appears to slight the importance of a group of monuments that were destined to develop such original and distinctive forms and to influence so indelibly later art, that they seem to deserve the rank of an independent style.

Indeed, so individual is this Byzantine art, that even the slightest trace of its influence on another style can usually be detected at a glance, — a fact that has too often caused in archi-

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ILL. 67. — Order of Hagios Ioannos, Constantinople. (From Salzenberg)

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tectural criticism a very loose use of the term "Byzantine" to denote monuments which, while thoroughly non-Byzantine in general character, show Eastern influence in some insignificant details. Thus until the middle of the XIX century, all pre-Gothic buildings in the West were commonly dubbed "Byzantine." Perhaps no greater tribute to the art of Constantinople could be paid than this unconscious acknowledgment of its individual and peculiar character.

When Constantine moved his capital to the shores of the Bosphorus he exerted every energy to make the new Rome as splendid in architecture as the old. The number and size of the buildings which according to contemporary authors he caused to be erected at Constantinople, is well-nigh incredible. Executed with more than the usual Roman haste, these buildings were probably inferior to the really remarkable structures erected at this epoch elsewhere in the Empire. At least, the fact that of all the vast city of Constantine hardly a single monument has survived to our day, argues ill for the character of the workmanship. As to the general style of these edifices we are left in no doubt, although no examples are extant, — they could only have been Roman. Similarly, the earliest churches of Constantinople must unquestionably have been basilicas of the usual Latin type.

The Roman period in Byzantine architecture was doubtless succeeded by one of transition, during which the individual character of the Eastern style gradually took form. The monuments furnish us with actual knowledge of the progress of this development only after the middle of the V century, a time when the change had already been almost completed. However, by a study of the historical conditions of the time, and by a comparison of the later monuments, it is possible to reconstruct in broad outlines the story of this growth.

During the IV century the split between the Eastern and Western Empires became wider and wider, until, when they were finally separated in 395, they had in reality become two different nations. While Rome was declining under the barbarian invasions, suffering sack and pillage, Constantinople lay in comparative security behind her impregnable fortifica-

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tions. The metropolis of the world had been transferred from the Tiber to the Bosphorus, and the Byzantines, who did not lack their share of local pride, were not the last to realize the fact that their city had become the center of European civilization. Consequently we may fairly assume that Constantinople would be peculiarly receptive to any impulses that should tend to free its art from dependence on the Western capital and peculiarly liable to be affected by any exotic artistic influences with which it was brought into close contact. Now, there can be no doubt that there were two such points of contact directly at hand — Greece and the Orient.

Greek influence, indeed, is apparent at Byzantium in much beside architecture. The entire city was fast becoming Greek, the extraneous Latin population was being absorbed by the native Hellenes; the Latin language was passing out of use and being forgotten. Men not only spoke Greek, but they thought Greek; an extensive, if not altogether rational, revival of Greek philosophy took place, and Plato and Aristotle became once more the subjects of learned discussions. Greek literature was read and appreciated as it had hardly been since the days of Augustus; the VI century authors abound in recondite allusions to Homer. In a word, the Byzantines felt themselves Greeks and the inheritors of Hellenic culture and refinement. Strange, indeed, it would have been, had they not turned their eyes from the glories of Greek literature to the glories of Greek architecture, from Homer to the Parthenon. And strange it would have been, had so cultivated a people not perceived the superiority of Greek to Roman decoration, and attempted to introduce into their own art some part of the beauty of the former.

Side by side with the contact with Greece there was even a closer contact with the Orient, for Constantinople was the gateway of Europe, and across the Bosphorus lay Asia and all the glamour of the Orient. The East, then as now, was full of the charm of rich ornament and of rich colors; rugs and silks and fabrics and hangings and jewels were ever pouring westward from Persia and India and China. From this contact with the Orient the Byzantines derived an extraordinary love of color and

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Ill. 68. — Order and Spandrel of Hagia Sophia, Constantinople. (From Salzenberg)

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a sense of its values such as hitherto had hardly been known in Europe. The Greeks, it is true, had lavishly used colors, and often bright colors; but the tones employed (judging from the faded traces that have come down to us) were bright and luminous — not unlike the tints that we associate with the frescoes of the early Tuscan school of Italian painting, and hence quite unlike the rich Byzantine tones. Roman colors, on the other hand, were crude and harsh; the most glaring reds and yellows and blacks were thrown together in total disregard of all esthetics; color schemes seem to have been unknown except in works either copied directly from the Greek originals or executed by a Greek artist, as certain of the frescoes of Pompeii. Byzantine coloring, therefore, forms a striking contrast to both Greek and Roman. It is the richest and deepest imaginable, delighting in a truly Oriental gorgeousness, where the golds and reds and purples join in a riot of splendor, and yet, strangely enough, for all their intensity, never clash. This color might be compared to that of Titian, of Rubens, or of Turner;— and yet none of these masters has produced quite the same soft and luscious tone.

This Oriental love of sumptuous color was so hostile to the spirit of Greek art that it must to a large extent have counteracted the force of the Hellenic influence in Byzantine architecture. Moreover, from the Orient had also come a love of luxury and magnificence even surpassing that of imperial Rome. Such a spirit must inevitably have contrasted the spacious Roman interiors with the dark, unadorned interiors of the Greeks, and, furthermore, must have perceived that the Roman types enjoyed the advantages of being perfectly adapted to the practical needs of the times. Consequently, it is not surprising to find that the Byzantines retained Roman methods of construction, and contented themselves with applying to them a new form of decoration — a decoration founded in part, it is true, on Roman tradition, but modified both by direct imitation of Greek models and by the exercise of that good taste which was a natural heritage from the ancient Greeks, and which had been cultivated into new life by the study of the old Hellenic monuments. To these Roman and Hellenic elements the Byzantine

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builders added their own love of Oriental color and a conscious or unconscious imitation of Oriental textile patterns. Such was the genesis of Byzantine architecture.

It must not, of course, be supposed that Byzantine architecture sprang into being at a breath, by any such course of conscious reasoning as that indicated above. On the contrary, its evolution, like that of all arts worthy of the name, was worked out slowly and logically by almost imperceptible changes. A slight improvement introduced by one architect was adopted and still further developed by a second. Thus gradually the whole character of the style was transformed from Latin to Byzantine.

Nevertheless, Byzantine architecture seems to have developed its peculiar forms with singular rapidity, for to judge from literary sources, its character could hardly have been much modified before the beginning of the V century. Yet when in 463, in the church of Hagios Ioannos (St. John of Studios) at Constantinople, we at last catch sight of what was actually taking place, the evolution of Byzantine ornament is already nearly complete, although the construction still remains Latin. The capitals of Hagios Ioannos (Ill. 67) preserve the essential features of the Roman order; but in the crisp carving of the acanthus-leaves and in a thousand variations of detail and proportion, we are conscious of the presence of a new and original art. The step from this form to the fully developed Byzantine capital (Ill. 68) is easily comprehensible, even though we have no actual examples of the intermediate stages.

These later capitals are all as evidently derived from Rome as those of Hagios Ioannos. They are based on the form of the uncut blocks from which the Roman Corinthian, Composite, or Ionic capitals had been formed. The stones for the capitals were doubtless quarried, and roughly blocked out quite as they always had been; but after they had been placed in position the Byzantine artist set to work to finish the execution in a manner peculiarly his own. At Hagios Ioannos the artist had completed the capitals almost in the old fashion, altering but slightly the proportions, and giving the acanthus-leaves instead of the drooping Roman form, the crisp, sharp character of the Greek type,

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ILL. 69. — Capital from S. Vitale, Ravenna

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with, however, a certain tendency towards stringiness that was wholly new and Byzantine (Ill. 67). In the later examples these leaves were merely treated with perforations instead of with carving; or sometimes they were twisted in whorls as if blown by a wind coming from two directions at once. The tendency to avoid the deep undercutting which had so strongly characterized classic ornament and to substitute therefor purely surface carvings became ever more marked — possibly because declining technique was no longer equal to the execution of undercutting, but more probably out of esthetic preference for the shallow ornament. As this tendency grew more decided, the finish of the capitals was executed less and less according to the Roman form. When merely the general outline had been cut, the artist set to work to cover the surfaces with charming designs of acanthus-leaves and vines. The result was such lovely compositions as the capitals of S. Vitale (Ill. 69), where the bulge in the center of each face clearly recalls the stone left to carve the fleuron of a Corinthian capital, while the bulges at the corners recall the volutes. One further step completed the evolution of the Byzantine capital. The original block was left entirely unshaped, the square abacus merely being merged into the round neck by subtle curves. A surface decoration was then added, and the fully developed "basket" capital (Ill. 70) had come into existence. The stilt-blocks, that so often surmount Byzantine capitals, are believed to have been derived either from uncut stones intended for entablature blocks or from blocks inserted in order to raise the capitals to the level of the arches in buildings built of pilfered materials.

Such are the main types of Byzantine capital. Many variations were wrought, such as the capitals of Hagia Sophia (Ill. 68) or the Ionic-like capitals of Hagios Bacchos (St. Sergius and Bacchus). Indeed, the variety of Byzantine types is infinite, and such a thing as stereotyped formula was unknown. Yet there is an unmistakable family likeness in all these products of the Eastern school.

The general carved ornament of the Byzantines is as distinctive as the capitals. It is characterized by the same crisp acanthus-leaves, often extremely elongated, and by the same

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shallow cutting, the pattern often being merely scratched on the surface (Ill. 67, 68). Old Roman motives — egg-and-darts, heart-leaves, modillions, and rinceaux — persist in forms only slightly modified. A love for the abstract line is often shown; bands and rinceau stems tend to assume great prominence and unroll themselves in endless circles and curves. The guilloche is extremely popular, as is also a pattern formed by the criss-crossing of parallel bands (Ill. 70). The Greek love of mysticism appears in the constant use of monograms (Ill. 68, 70), Greek crosses, and symbolic figures. Perhaps the finest examples of this carved ornament extant are the spandrels of Hagia Sophia (Ill. 68).

Even more successful than the carved ornament, however, was the Byzantine decoration in mosaic. As we have seen, much of what is best in Early Christian mosaics was due to influence from Constantinople. Eastern mosaics, generally speaking, are to be distinguished from those of the West by the more general use of gold backgrounds, and by the more sumptuous coloring. In the VI century the art reached its zenith. Church interiors were covered from top to bottom with this gorgeous decoration, and to the resplendent richness of the mosaics Byzantine architecture owed in large measure that warmth of color which was its chief boast.

Purely ornamental mosaics in *opus alexandrinum* also reached high development, as we learn from a few scattered fragments that have come down to us. One of these in the church of Hagios Ioannos, with its rolling and interlacing guilloches, curiously presages the work of the Cosmati at Rome; — a style of mosaic still more vividly called to mind by a passage in Paulus Silentiarius, describing the now lost ambo at Hagia Sophia.[1]

In general, the church furniture of Byzantine churches, to judge from the slight indications that we have, did not differ widely from that employed in the Early Christian edifices. In the marble pierced work slabs (Ill. 71) used in the choir screens, there was developed, however, a new style of decoration not only beautiful in itself, but destined to lead to great results long after

[1] *τοῦ μὲν ἐπὶ τραχάουσι διαμπερὲς οἷά τε δῖναι | πῃ μὲν ἴσαι κύκλοισιν ἀτέρμοσι, πῃ δέ γε κύκλων | βαιὸν ἀποκλαγχθέντας ὑπεκτανύουσιν ἑλιγμούς.* — *Descriptio Ambonis*, 81.

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ILL. 70. — Basket Capital from S. Vitale, Ravenna

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in far-away India. These pierced work slabs were treated in a fashion quite characteristically Byzantine, with bands, guilloches, interlaces, acanthus-leaves, crosses, and monograms. They were copied in the screens of many of the Early Christian churches of Italy.

While ornament was making such rapid advances, the constructive side of Byzantine architecture remained at first unchanged. Until the end of the V century the basilican form of church seems to have been well-nigh universally adopted; the architects contented themselves with merely adorning with mosaics and the new-found ornament the already well-established type of ecclesiastical building. But in the early years of the VI century, the Byzantine builders began to turn their attention towards the circular church.

The Early Christians, it will be remembered, had already introduced several improvements into the design of circular buildings: side aisles had been added; the central area had been made octagonal instead of circular, thus allowing arches, straight in plan, to be substituted for the old curved architrave; a square exterior had been obtained by means of niches and walls of varying thickness; finally, a separate apse had been built out to the eastward, providing a suitable place for the altar. These changes had all been effected in the church of Zor'ah in Syria (Ill. 47).[1]

The circular church as thus developed presented several difficulties. First of all, it was ordinarily too small to accommodate a large congregation. Furthermore, the central octagon was not satisfactorily adjusted to the square outside wall, and, most important of all, there was difficulty in adjusting a spherical dome to the octagonal central area. This final problem was at last solved only in the pendentives of Hagia Sophia; the other two were attacked in the church of Hagios Bacchos (528 A.D.).

As a glance at the plan of this monument (Ill. 72) will show, several expedients were adopted to increase the floor space. The central octagon itself was made larger than ever seems to

[1] I should not wish to be understood to imply that Zor'ah directly influenced Constantinople, for this monument is dated 515, and it is more likely that the influence, if it existed, was exerted the other way about. This church, however, probably fairly represents the farthest achievement of Early Christian architecture in this particular direction.

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have been done before; in addition, a gallery was added over the side aisle. Thus the capacity of the church was largely increased. The esthetic quality of the design was improved by breaking up each of the main arches into three bays by smaller columns. These columns also served a utilitarian purpose, for they were in two stories, of which the lower supported the gallery, while the upper supported sub-arches grouped under the great arch which carried the dome.

This idea of subordinate parts was an innovation of capital importance. Hitherto, all buildings had been designed according to certain fixed proportions; if the building was large, the order was large too, and so was all the detail. Looking at a drawing of the Pantheon, it would hardly be possible to tell whether it were fifty or five hundred feet in diameter. Similarly, in the actual building, while we know at once it is large, much of the effect of its real size is lost, simply because the eye cannot measure its true greatness. The subdivision of the bays at Hagios Bacchos is the earliest example we have of a new and most important principle of design. The smaller columns immediately give scale; their actual size is at once comprehended by the eye, and their multiplication unconsciously leads the spectator to comprehend the true dimensions of the building. This principle of the subdivision and grouping of parts is, perhaps, the characteristic which most sharply distinguishes medieval from ancient design.

Although it is permissible to see an esthetic motive in the sub-arcades introduced in Hagios Bacchos, mere utilitarian considerations probably led the architect to bend out in semicircular niches these sub-arcades in the four great corner arches. By this means he increased still further the available floor space of the central area, and tentatively solved the problem of adjusting the interior octagon to the external square. While thus called into being by strictly utilitarian purposes, such niches were found to be too full of esthetic charm to be neglected after the idea had once been suggested. The plan of the church of S. Vitale at Ravenna (Ill. 73) is largely dominated by this motive. All the great bays here form niches, and the external wall being octagonal instead of square, these great

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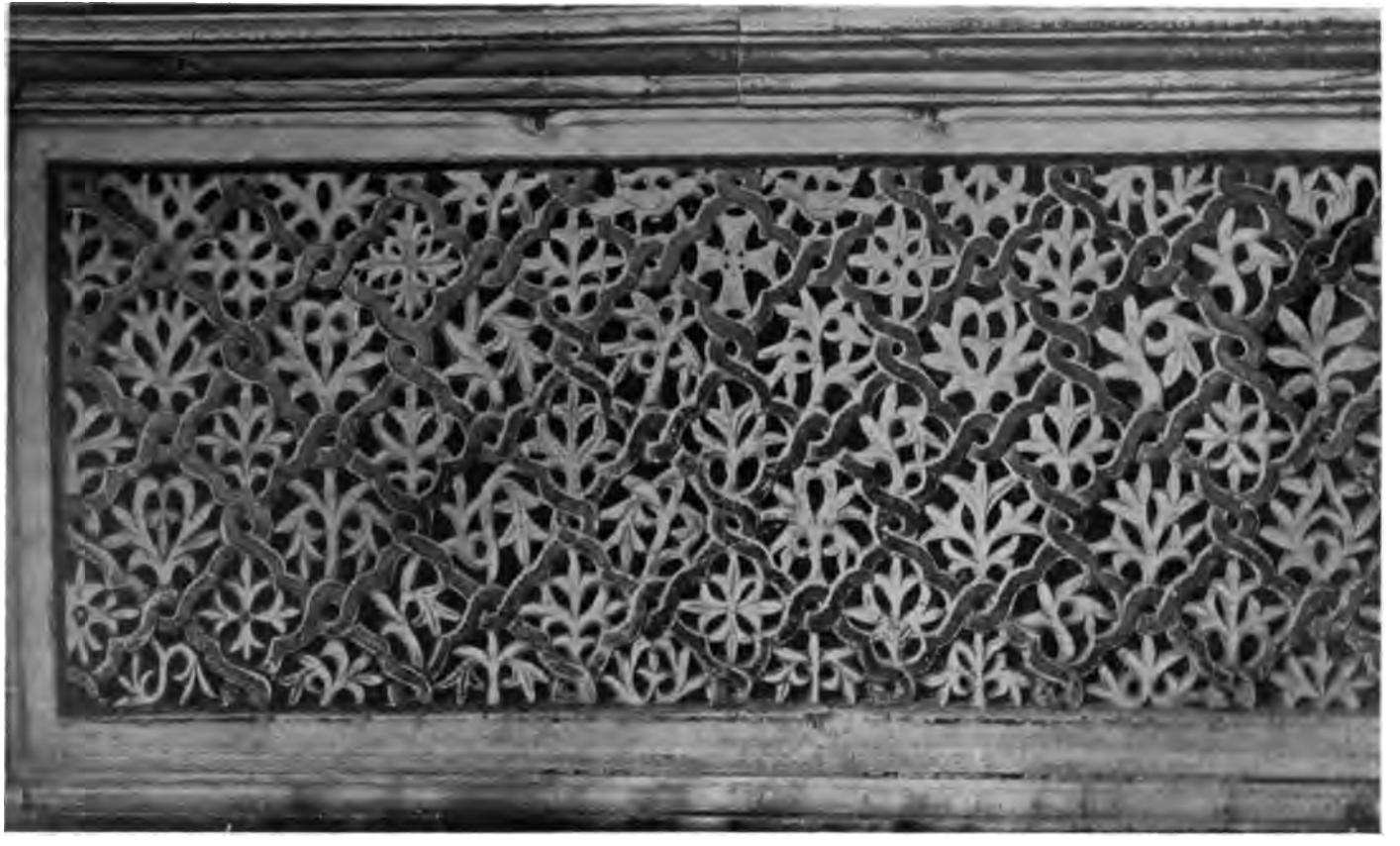

ILL. 71. — Pierced Marble Choir Screen from S. Vitale, Ravenna

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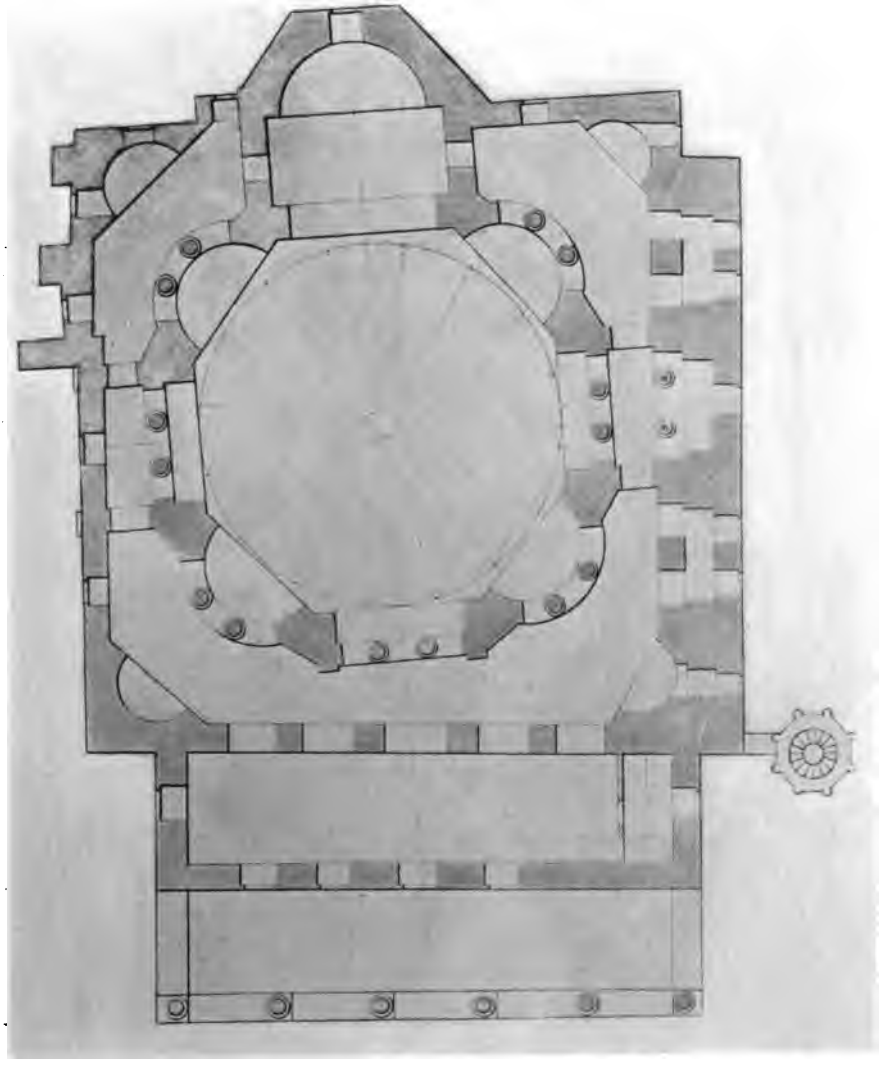

ILL. 72. — Plan of Hagios Bacchos, Constantinople. (From Pulgher)

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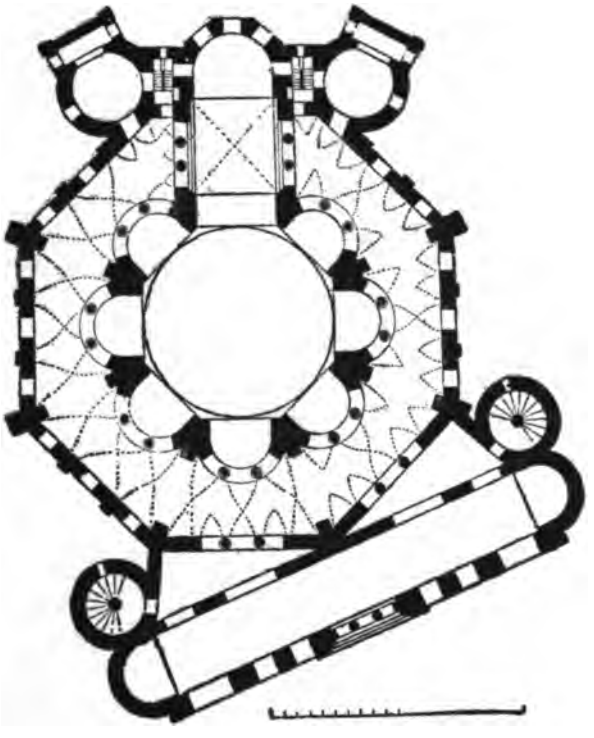
bends, far from being structural, project almost to the external wall and completely ruin aisle and gallery. Still the varied perspectives and charm of contrasted surface attained in the design of this monument go far to compensate for its somewhat impracticable arrangements.



ILL. 73. — Plan of S. Vitale of Ravenna. (From Dehio)

The problem of placing a spherical dome on a polygonal building was no new one. In the West, the Romans had attacked it in one of the octagonal halls of the enclosure at Caracalla's Baths, in the so-called temple of Minerva Medica, and elsewhere.[1] In these early attempts the dome was built always on

[1] Pendentives were known in the East at a very early epoch. In the Western Tomb at 'Ammân, a dome is placed upon a square base; and at Kusr-en-Nueijîs, Jerash, Jerusalem, Ismid, and Sart there are true pendentive vaults dating from the II or III century A.D. This construction was merely reproduced in the monuments of the late V century at Ravenna, while the only true innovation introduced at Hagia Sophia was the placing of a dome of smaller diameter upon the pendentives; in the earlier examples the curve of the pendentives had been continued to form the entire vault.

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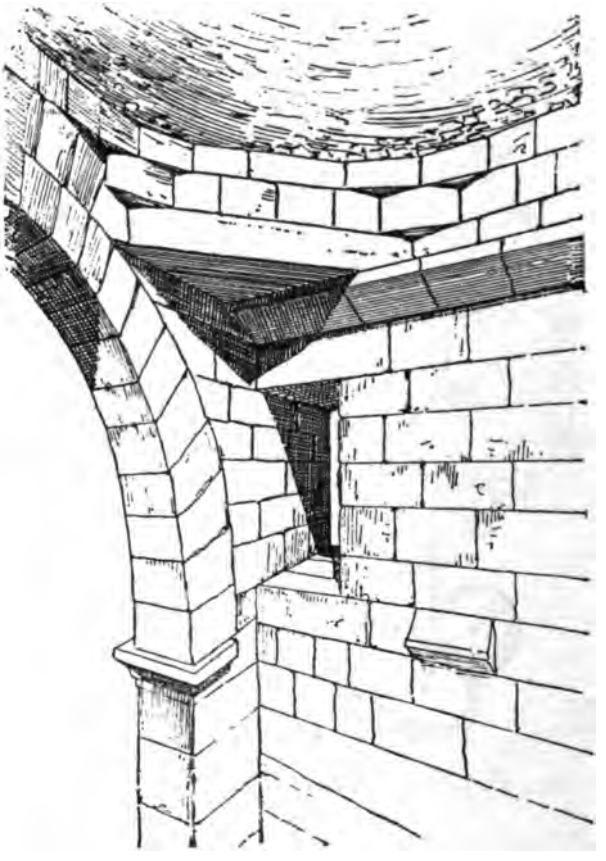
the plan of the inscribed circle, so that it fitted perfectly at the middle of each side of the area to be roofed, but cut across the corners, where it left a part of the base of the dome unsupported. To hold up these unsupported parts resort was had to the expe-



ILL. 74. — Squinch of Omm-es-Zeitoun (c. 282 A.D.) (From Rivoira, by Special Permission)

dient of corbeling out the masonry. One stone was made to project a little farther than the others until the polygon was worked into cylindrical form. This device is known as a squinch (Ill. 74). Obviously the smaller the scale and the larger the number of sides of the polygon, the more successfully the expedient may be applied. But it was at best a makeshift, and its greatest interest as a constructive form lies

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ILL. 75. — Smoothed Squinch of Arch at Latakia.
(From Rivoira, by Special Permission)

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ILL. 76. — Construction of Arched Squinch at S. Vitale, Ravenna. (From Rivoira, by Special Permission)

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in the fact that it furnished the Arabs the inspiration for their stalactite ornament.

Probably the first advance in the construction of squinches was to smooth off the edges of the stone blocks forming the corbels so that the whole received the appearance of a triangular wedge (Ill. 75). The principle of construction remained unaltered. The next step would be to double the number of the sides of the octagon by arches engaged in each corner; from the sixteen-sided figure thus obtained, the transition to the dome could be effected by means of squinches (Ill. 76). As the builders came to have more and more experience with the construction of squinches, they came to build them more and more in the shape of spherical triangles, and to give them gradually the character of vaults instead of corbels, until at last true pendentives were evolved. On a polygonal prism suppose a hemispherical dome to be set, but the base of the dome to be the size of the circumscribed, not the inscribed, circle. If, then, this dome be pressed down, until the sides of the prism cut through its shell, and the parts thus cut off thrown away, what remains will form a true pendentive vault. Each side of the prism will cut away an equal semicircle from the hemisphere. Between these semicircles and the base of the hemisphere, filling in the corner of the prism, a portion of the dome will remain as a spherical triangle taking the place of the old squinch. The appearance of pendentives may be studied in the section and perspective view of Hagia Sophia[1] (Ill. 77, 78).

We have already seen that the structure of a dome is complete with every stone course. Consequently, a pendentive vault may be stopped at any stone course which is continuous — *i.e.*, uninterrupted by intersection with the prism — a condition which occurs in all the courses above the one in which

[1] It has become so usual in these days to protest against the unscholarly use of the term "Sta. Sophia" to designate this church, that I make no apology for restoring the original form. The time-honored error seems to have arisen through confounding the Greek term, "Ἁγία Σοφία" "Church of the Divine Wisdom," with the Greek word "Ἁγία" meaning saint. Sophia was then turned into a proper name. Why the "Santa" of another language — the Italian — should have been introduced is difficult to say. Lethaby and Swainson have lately still further complicated the matter by trying to establish the form Sancta Sophia (a form before used by certain other English writers) — probably because the Latin is the only thing more illogical than the established Italian usage.

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a circular plan has first been reached. At the point where the pendentive is stopped a drum may be added and this in turn surmounted by a dome; or a dome, with base the size of the inscribed circle, may be set on top of the pendentives. This last course was adopted in Hagia Sophia.

The pendentives of Hagia Sophia are the crowning achievement of Byzantine architecture. Contemporaries declared the giant dome was hung in the air, so light and daring appeared the construction; and from that day to this hardly a dome has been built that has not borrowed the great invention of pendentive supports. Great, however, as are the pendentives of Hagia Sophia, it is doing a wrong to its architects, Anthemios of Tralles and Isidoros of Miletus, to find in the vaults the only or even the chief claim of this monument to fame. Hagia Sophia is one of the great master-works, not only of Byzantine, but of world architecture. Its construction (532–537) marks the culminating point in Byzantine art, and coincides with the culminating point in the political glory of the Eastern Empire.

Under the conservative emperors of the end of the V and early VI centuries, — Leo I, Zeno, Anastasius, and Justin, — the Empire enjoying comparative peace and prosperity, had been husbanding its resources. A full treasury, a good army, and a prosperous population were at the disposal of Justinian when he mounted the throne (527). Culture had revived; it even seemed as if the olden splendor of the ancient Roman Empire was reawakening to new life. To restore the past glories of the Cæsars, Justinian was not slow to bend his best energies. His wars with Persia and the glittering conquests of Africa, Italy, and Spain brought him a military prestige such as had been for long centuries enjoyed by no Roman ruler. But it was by his buildings, no less than by his conquests that the great Emperor sought to immortalize his fame. The historian Procopius has left us an entire work devoted to an account of the works of architecture erected by Justinian; — a work which enumerates thousands of churches, monasteries, hospitals, palaces, bridges, fortifications built in all parts of the Empire and all of the greatest magnificence. The list as we read it over is

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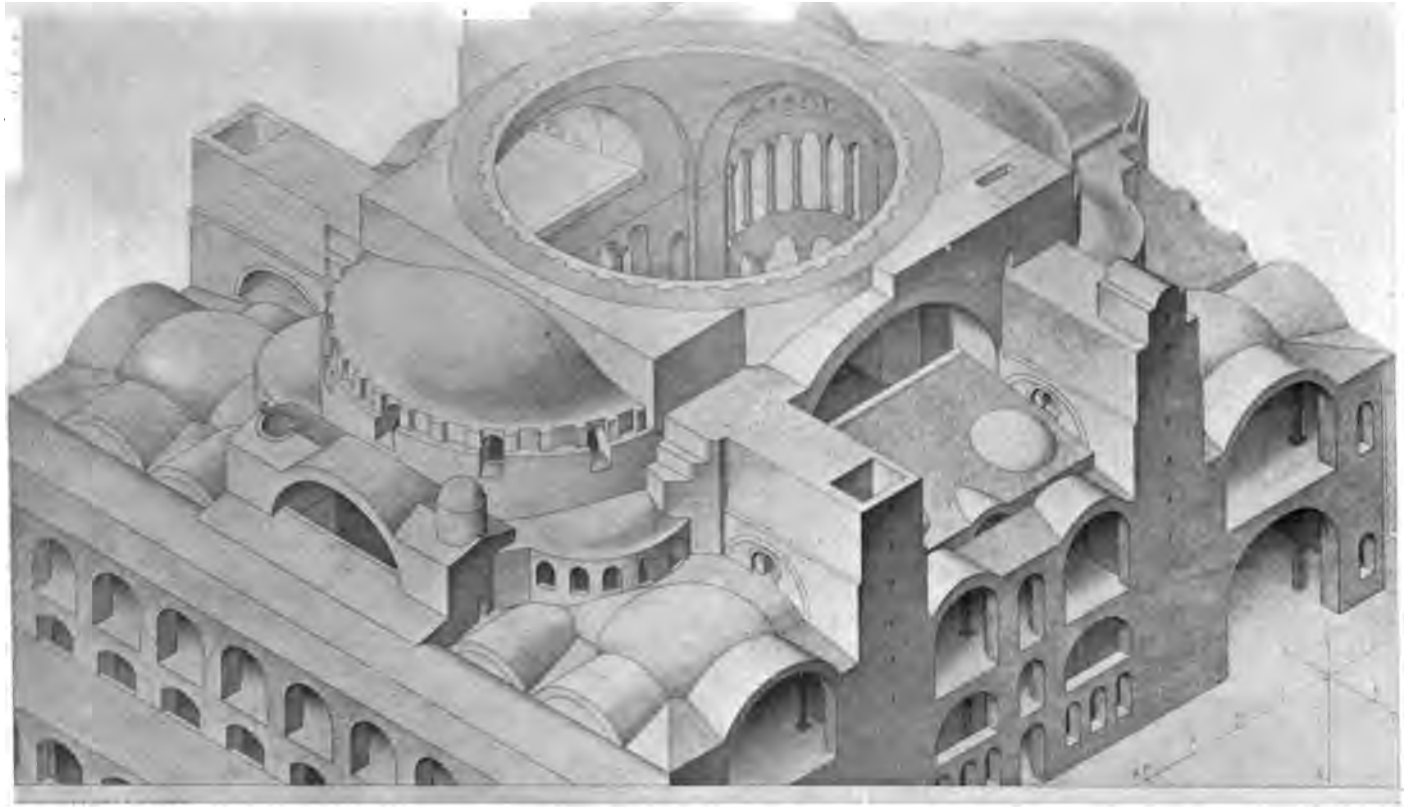

ILL. 77. — Perspective of Construction, Hagia Sophia, Constantinople. (From Choisy, by Special Permission)

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fairly appalling in its length; and yet the author insists many times that his enumeration is far from complete.

It was to this insatiate building activity of the Emperor that Byzantine architecture owed its extraordinary development; it was to the same inexhaustible zeal that it owed its supreme triumph and culmination in Hagia Sophia. The expense of Justinian's wars and building operations was destined before long to exhaust the Empire, and to be largely instrumental in bringing about that economic decay that was so soon to overwhelm the East. But of this impending poverty the great church shows not a trace, and its sumptuous magnificence reflects rather the prodigality which so quickly used up the resources of the state. Rising from the ashes of the Nika sedition at the moment of the greatest material prosperity of the Eastern Empire, Hagia Sophia was pushed to completion with incredible rapidity, and for its lavish adornment the munificent Emperor spared no expense. Indeed, such vast sums did he expend on the construction of this church, that the cost of this one monument alone seems to have been enough to seriously cripple the national finances.

A glance at the plan (Ill. 79) will show that we have here a building of very different type from any we have yet studied. Hagia Sophia is without parallel among great works of architecture in that its form was not the result of a long process of orderly development and evolution, but was, as it were, created at a breath by the genius of one man.

So far as is now known, the nearest approach to a prototype of Hagia Sophia was the Basilica of Constantine, at Rome. Here a great hall in three bays, covered with groin vaults, was supplied with heavy buttresses, through which the aisles were carried by means of arches (Ill. 22, Fig. 2). Anthemios seems to have taken a plan something like this as the basis of his design. But for the groined vault over the central bay he substituted a dome resting on four great arches by means of the famous pendentives. Then each of the end bays he made semicircular instead of square, and covered them with half-domes. Beyond each of these semicircular bays he opened three semicircular niches, borrowing the motive employed in Hagios Bacchos and S. Vitale; — the central of these niches at the east end became the

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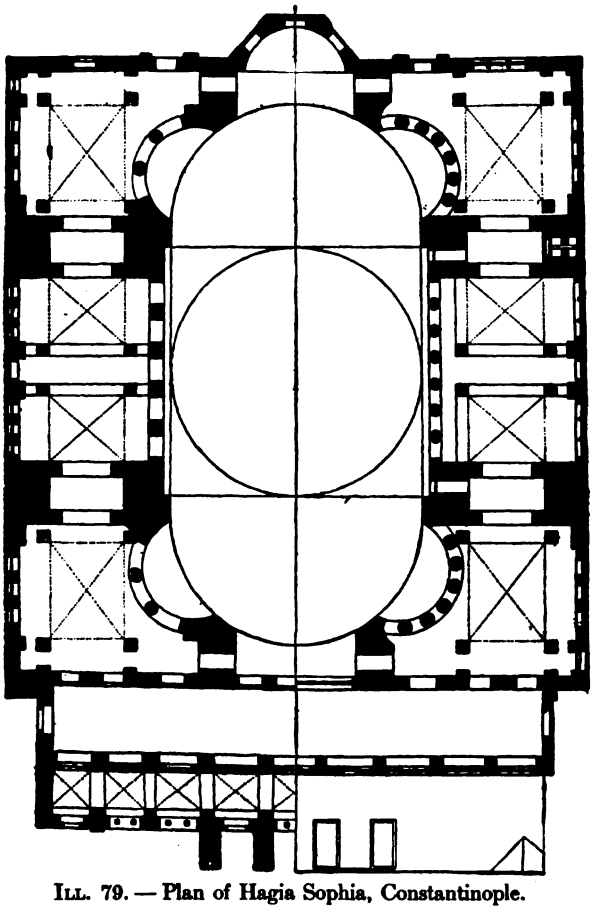
apse, that of the west end was replaced by the entrance. Before the church was placed a double narthex, preceded by the usual atrium. Above the aisles was the gallery for the women. All the great arches were subdivided and given scale by a system of intermediate arcades, similar to that we have remarked in Hagios Bacchos.



ILL. 79. — Plan of Hagia Sophia, Constantinople.

This colossal scheme is worked out with the greatest structural cleverness. As may be seen in the plan (Ill. 79), the proportion of solids to voids is unusually low. By comparing the section (Ill. 78) and M. Choisy's perspective (Ill. 77) it will be seen that each dome and semi-dome is buttressed by heavier masonry at the haunch where the thrust falls. It was a bold,

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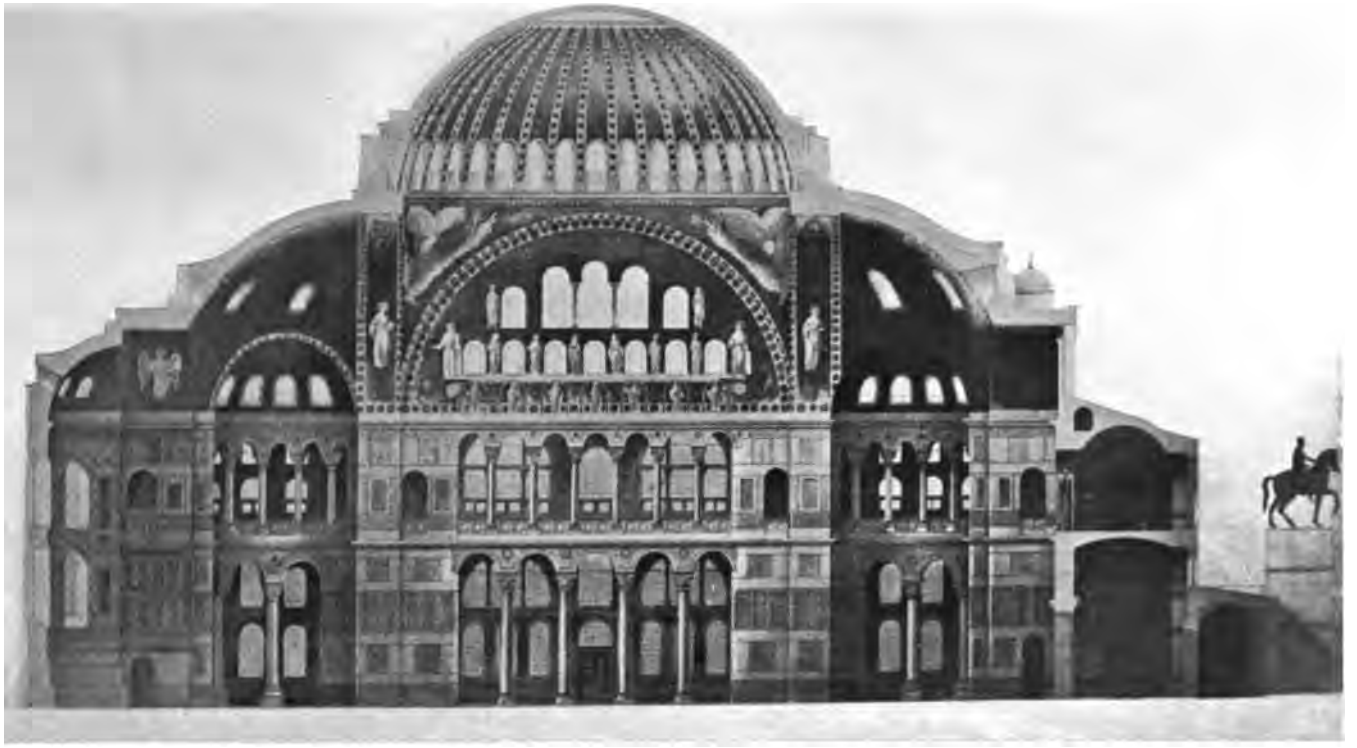

ILL. 78. — Section of Hagia Sophia, Constantinople. (From Salzenberg)

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yet successful experiment to pierce the base of the dome with windows, for the event has proved that the intermediate piers were amply sufficient to support the immense superincumbent weight. The tendency of the dome to push the great arches outwards is met to the eastward and westward (Ill. 78) by the semi-domes placed against it. These semi-domes are in turn buttressed by the half-domes of the niches.

All this careful and scientific balancing of thrust against thrust is a wonderful advance over anything that had hitherto been accomplished in architectural construction, and we do not wonder that the astonished Byzantines hailed Anthemios as a greater mathematician than Archimedes. But great as was the structural cleverness of this design, it yet contained certain defects. In the first place, the four great buttresses at each angle of the center bay were not well placed. In the groin-vaulted basilica of Constantine the same buttresses had been exactly calculated to meet the combined thrust of two adjoining groin vaults. But when Anthemios substituted the dome on pendentives for the groined vault, he removed the thrust these buttresses were designed to meet. The thrust from the pendentives is straight outward from the center, thus cutting across the angle of the buttress. Consequently the great masses of the latter are entirely wasted, for they reinforce only the great east and west arches, which do not require such heavy abutment. While the strength of these vast buttresses is thus thrown away, the central portions of the north and south arches — the parts that need buttressing most — are entirely unreinforced, and there is nothing save their enormous thickness to offset the tendency of the dome to push them outwards.

Owing, probably, to these deficiencies the equilibrium of the building has never been quite assured, and the dome has fallen at least three times. Nevertheless, it seems ungenerous to cavil at the stability of a building which has stood for thirteen centuries; and when its lack of precedent, the daring of its construction, and the colossal scale of its execution are considered, the claim of Hagia Sophia to rank as one of the greatest feats of human construction can hardly be disputed.

Esthetically considered the exterior of this great church

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must be admitted a failure — if it be just to set down as a failure what the builders never attempted. The outside of Hagia Sophia is a shapeless mass of domes and half-domes, to-day still further confused by Turkish additions. All the efforts of the architects were concentrated on the interior; here the noble construction was enhanced by all the skill of the decorative artist.

At Hagia Sophia every inch of the wall surface of the interior was ablaze with color of that indescribable richness and splendor that is peculiar to Byzantine art. The domes and vaults were glorious with the most splendid of Byzantine mosaics; the walls were paneled with marbles of many colors.[1] It is difficult to understand why this same marble veneering, so offensive to us in Roman work, although used with unprecedented lavishness in Hagia Sophia, is yet here full of undeniable charm. The explanation must be sought in two facts: in the underlying Hellenic feeling and sense for beauty, which saved the Byzantine artists from the vulgarity of Roman design, and in the accident that Hagia Sophia, like many other Byzantine buildings, for all the excellent technique, was built largely of pilfered Roman materials. As a consequence of the latter circumstance, the marble available for paneling and other decoration was a miscellaneous lot, and no attempt was made to arrange it in any regular pattern, but the slabs of various colors and dimensions were crowded in wherever and however they happened to fit. The panels, although of good size in themselves are small in comparison with the vast scale of the church. Since they are not arranged in definite recurring patterns, it results that the strong color of each individual piece does not strike the eye, but becomes fused with the different colors of its neighbors. Thus the whole combines to give that mellow richness of color which is the glory of Byzantine art.

Hagia Sophia is the culmination, as it is the most typical manifestation of Byzantine architecture. And Hagia Sophia must rank among the supreme achievements of human architectural genius, side by side with the Parthenon, the Taj Mahal, the great Gothic cathedrals. Once inside its doors

[1] The effect of this interior decoration is at present largely marred by Turkish additions.

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the eye is led irresistibly from niche to half-dome, from half-dome to the soaring central vault, almost as in a mountain range we look from the lesser peaks, rising one behind the other, to some commanding Matterhorn. The appeal is as instantaneous and compelling, as in the more strictly unified Pantheon. But in the Pantheon, when the eye is once satiated with the mere size of the dome, there is nothing left to give pleasure; and it is strange how quickly we become accustomed to the scale of any building, however vast, so that after remaining in it, say for an hour, we forget the great dimensions. In Hagia Sophia, on the other hand, the all-pervading unity of the dome encloses a host of subdivisions, each of the greatest architectural charm in itself, and each full of beautiful details worthy of the closest study. Writers of the VI century hardly knew which to admire the more, the main design of Hagia Sophia or the exquisite detail with which it was adorned. And that doubt, notwithstanding the Turkish whitewash, we still feel to-day. If the Parthenon, with its delicate color, its exquisite refinement and perfection symbolizes the spring time of ancient art, Hagia Sophia, less dainty, more soiled, yet withal scarcely less beautiful, in its riot of rich colors, symbolizes the autumn. It was with a justifiable pride that Justinian exclaimed, when, on the memorable twenty-sixth of December, 537, he gazed for the first time on the soaring pendentives of the great dome: "I have surpassed thee, O Solomon!" In truth, he had surpassed a greater than Solomon.

This exclamation of Justinian is significant of the character of Byzantine architecture. Hagia Sophia was as much the work of the vanity of the emperor as of the genius of Anthemios. Byzantine art is in no sense popular; it is not the spontaneous manifestation of an art-loving people; it in no way speaks from the heart. On the contrary, it is aristocratic, princely. It expresses the vanity of an autocracy tyrannical and selfish, frequently at open strife with its subjects. Yet, almost alone of all the arts fostered under such circumstances, it rose to true greatness.

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BYZANTINE MONUMENTS OF THE FIFTH AND SIXTH CENTURIES

Monuments of the First Importance

CONSTANTINOPLE, Turkey. *Hagia Sophia* (Ill. 68, 77, 78, 79), Church of the Divine Wisdom, erroneously known as "Sta. Sophia," was founded by Constantine the Great.[1] This early church[2] was circular,[3] with a domed wooden roof. But in the reign of Constantine's son Constantius, the building had become too small for the needs of the congregation. Accordingly, when the edifice chanced to be injured by an earthquake during the reign of this prince, he seized the opportunity to rebuild it on a larger scale. This second church, consecrated in 360,[4] was twenty-one years later (381) injured by fire, the roof being entirely destroyed.[5] For two years the building remained unrepaired, when the roof was rebuilt in a "cylindrical" form.[6] The misfortunes of the church, however, were far from being ended; the eastern parts[7] were destroyed by fire in 404 during the riots which occurred in connection with the exile of John of Chrysostom,[8] and it is probable that during the minority of Theodosius II another fire occurred. At all events, a complete rebuilding of the church took place in 415.[9] This third building seems to have stood without further adventure until the great Nika sedition of 532. I translate the account of Procopius, a contemporary writer, of its destruction at that time and of the rebuilding by Justinian: "The mob and rabble, rebelling against the Emperor Justinian in Constantinople, raised up the sedition called Nika, as has been clearly shown by me in my work on the wars. And manifesting that not only against the Emperor, but no less against God, they had raised such impious arms, they dared to burn the church of the Christians — the Byzantines call it Sophia, *i.e.*, *Wisdom*, giving thus to the church the name most worthy of the Deity — and God allowed them to do this sacrilege, foreknowing in what beauty the temple should rise again. Then, indeed, the church burned to ashes lay all in ruin. And not much later, Emperor Justinian wrought such a work, that if the Christians themselves could have learned, that should the church be destroyed, it would become such as it now is — if they could have presaged somewhat of the marvels which now appear, — it seems to me they would very quickly have prayed to see their church in disaster, that it might change to the present form.

[1] Nicephorus Callistus VII, 49; Theophanes, 5816; Codinus, *Excerpta*, 73; Anonymus Banduri, 32.

[2] Richter conjectures it was merely a baptistery to the adjoining cathedral, Hagia Eirene.

[3] Codinus, *Excerpta*, 73, and other authorities. See Richter. Of this point there seems no ground for doubt. Salzenberg, however, quoting Du Cange, states that the building was a basilica (*δρομικός*), whence the error has been adopted by many other writers.

[4] Salzenberg.

[5] Combesis, cited by Richter, 44.

[6] *Ibid.* Just what this "cylindrical roof" means is not clear. Was this second church of Constantius a basilica?

[7] Marcellinus; *Chronicon Pascale*, Ol. 298, 4, cited by Richter, 45, 47.

[8] See Gibbon, *Decline and Fall*, Chap. XXXII.

[9] Salzenberg.

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For the Emperor, heedless of expense, sent with haste for workmen skilled in building, summoning them from every land. And Anthemios of Tralles, by far the wisest in the art called mathematics not only of living men but of those who have lived before, came in answer to the hasty summons of the Emperor, apportioning the work to the workmen and preparing plans of the building about to be; and another engineer was with him, Isidoros by name and a Milesian, a very clever man in other things and conspicuous for the aid he rendered Justinian. . . . One of the great arches, . . . (the engineers call them *loroi*), — the one towards the rising sun, — had been built up now on each side, but the center part had not yet been completed, but the arch stood unfinished. And the centerings on which the structure rested, not bearing the weight of the unfinished arch which lay upon them, suddenly broke, and cracked, and threatened before long to fall altogether. And Anthemios and Isidoros and their men, fearful because of what had given way, brought the matter before the Emperor, mistrusting their art. And he, led by whom I know not, but I think by God (for the Emperor is not an engineer), bade them bring the arch to completion. 'For,' he said, 'it so will bear its own weight, and no longer press on the centering below.' And if this tale were without witnesses, I know well I should be deemed a liar and wholly untrustworthy; but since there are many witnesses that these things so happened, I do not hesitate to relate them. The workmen then did as the Emperor commanded, and the arch was constructed in all safety, proving by trial the justness of his opinion. This arch was then erected in such a manner, but the other arches, those turned towards the south and north wind, were built as follows. These arches were successfully completed, but their weight fell so heavily upon the substructions that the columns below [being crushed] commenced to crumble off in small pieces of shale. And straightway the engineers, disheartened by this settling, announced what had happened to the Emperor. And he at once devised this remedy. He ordered them to tear down immediately the upper portion of the walls which had given way, wherever the walls touched the arches, and to replace these removed portions only much later, when the dampness of the building should have dried off, especially on the arches. And the workmen did so. And the settling went on without damage in the future."[1] From other

[1] *Ἄνδρες ἀγελαῖοί ποτε καὶ ὁ συρφετὸς ὄχλος Ἰουστινιανῷ βασιλεῖ ἐν Βυζαντίῳ ἐπαναστάντες τὴν Νίκα καλουμένην στάσιν εἰργάσαντο, ἥπερ μοι ἀπαρακαλύπτως ἀκριβολογουμένῳ ἐν τοῖς ὑπὲρ τῶν πολέμων δεδιηγῆται λόγοις. ἐνδεικνύμενοι δὲ ὡς οὐκ ἐπὶ τὸν βασιλέα μόνον, ἀλλ' οὐδέν τι ἧσσον ἐπὶ τὸν θεὸν, ἅτε ἀποφράδες τὰ ὅπλα ἀντῆραν, ἐμπρῆσαι τῶν Χριστιανῶν τὴν ἐκκλησίαν ἐτόλμησαν (Σοφίαν καλοῦσιν οἱ Βυζάντιοι τὸν νεὼν ἐπικαιριώτατα τῷ θεῷ τὴν ἐπωνυμίαν ἀπεργασάμενοι), ἐπεχώρει δὲ αὐτοῖς ὁ θεὸς διαπράξασθαι τὸ ἀσέβημα, προειδῶς εἰς ὅσον τὸ κάλλος τοῦτο τὸ ἱερὸν μεταστήσεσθαι ἔμελλεν. ἡ μὲν οὖν ἐκκλησία ἐξηνθρακωμένη τότε ξυμπᾶσα ἔκειτο. βασιλεὺς δὲ Ἰουστινιανὸς τοιαύτην ἀποτετόρνευται οὐ πολλῷ ὕστερον ὥστε, εἴ τῶν Χριστιανῶν τις ἐπύθετο πρότερον εἰ βουλομένοις αὐτοῖς διολωλέναι τὴν ἐκκλησίαν εἴη καὶ τοιάνδε γενέσθαι, δείξας τι αὐτοῖς τῶν νῦν φαινομένων ἐκτόπωμα, δοκοῦσιν ἄν μοι ὡς συντομώτατα εὔξασθαι πεπονθυῖαν σφίσι τὴν ἐκκλησίαν θεάσασθαι, ὅπως δὴ αὐτοῖς ἐς τὸ παρὸν μεταβάλοιτο σχῆμα. ὁ μὲν οὖν βασιλεὺς ἀφροντιστήσας χρημάτων ἁπάντων ἐς τὴν οἰκοδομὴν σπουδῇ ἦετο, καὶ τοὺς τεχνίτας ἐκ πάσης γῆς ἤγειρεν, ἅπαντας. Ἀνθέμιος δὲ Τραλλιανὸς, ἐπὶ σοφίᾳ τῇ καλουμένῃ μηχανικῇ λογιώτατος οὐ τῶν κατ' αὐτὸν μόνον ἁπάντων, ἀλλὰ καὶ τῶν αὐτοῦ προγεγενημένων πολλῷ, τῇ βασιλέως ὑπούγει σπουδῇ, τοῖς τεκταινομένοις τὰ ἔργα ῥυθμίζων, τῶν τε γενησομένων προδιασκευάζων ἰνδάλματα, καὶ μηχανοποιὸς σὺν αὐτῷ ἕτερος Ἰσίδωρος ὄνομα, Μιλήσιος γένος, ἔμφρων τε ἄλλως καὶ πρέπων Ἰουστινιανῷ ὑπουργεῖν*

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authorities we learn that Justinian began to build in February 532, just forty days after the fire.[1] Material was pilfered for the building from all over the Roman world.[2] Eight columns came from Valerian's Temple of the Sun at Rome, others from Ephesus, Cyzicus, Troy, Athens, etc. According to Glycas[3] the material took seven years to gather, and the church seventeen years to build. Theophanes, a better authority, however, states that the work was finished in the incredibly short space of five years, eleven months and ten days, and that the consecration took place on the 26th December, 537.[4] The masterwork of Anthemios of Tralles, however, did not long stand unaltered. In 558 the structure was seriously injured by an earthquake. I translate the grandiloquent account given by Paulus Silentiarius: "And now shaking from its mighty foundations the god-like rim of the hemispherical dome fell, and all the foundations of the hall of mystery were shaken. And all the lowest parts of the foundations leapt up to the stars; and for a time the earth groaned; and the dust, mixed with the air and accompanying the clouds, made dark the midday brightness of the heavenly aether. . . . Not prostrate to its foundations did the building fall, destroying for us art, mother of the best children: but only the crown of one arch was destroyed; and part of the dome was mixed with the dust, and part of it was on the ground, and part still in place, and it was wonderful to see how hanging without support it was the fellow of the air. . . . But my scepter-bearing Emperor, having heard the unspeakable misfortune, did not conceal the light of his mind, nor shouldst thou deem he kept silent, shirking at work in our behalf; but he shook off the goad of our short-abiding sorrow,

βασιλεῖ. . . . τῶν ἀψίδων, ὥνπερ ἐπεμνήσθην ἀρτίως (λώρους δὲ αὐτὰς οἱ μηχανοποιοὶ ἐπικαλοῦσιν) μια τις, ἡ πρὸς ἀνίσχοντα ἡλιόν ἐστιν, ἐπανειστήκει μὲν ἑκατέρωθεν ἤδη, οὔπω δὲ ὅλη τὸ μέσον συνετετέλεστο, ἀλλ ἔμενεν ἔτι. οἱ δὲ πεσσοί, ὧν δὴ ὕπερθεν ἡ οἰκοδομία ἐγένετο, τῶν ἐγκειμένων σφίσιν οὐκ ἐνεγκόντες τὸ μέγεθος, ἀμηγέπη ἐξαπινάιως ἀπορρηγνύμενοι, οὐκ ἐς μακρὰν διαλυθησομένοις ἐφέκεσαν. οἱ μὲν οὖν ἀμφὶ τε Ἀνθέμιον καὶ Ἰσίδωρον τοῖς συμπεπτωκόσι περίφοβοι ὄντες ἐπὶ τὸν βασιλέα τὸ πρᾶγμα ἦγον, δυσέλπιδες ἐπὶ τῇ τέχνῃ γεγενημένοι. αὐτίκα δὲ ὁ βασιλεὺς, ὅτῳ μέν ποτε ἠγμένος οὐκ οἶδα, θεῷ δὲ οἶμαι (οὐ γάρ ἐστι μηχανικὸς) ἐς τὸ πέρας αὐτοῖς περιελίξαι τὴν ἀψῖδα ταύτην ἐπήγγελλεν. αὐτὴ γὰρ, ἔφη, ἐφ' ἑαυτῆς ἀνεχομένη τῶν ἔνερθεν πεσσῶν οὐκέτι δεήσει. καὶ εἰ μὲν ὁ λόγος ἀμάρτυρος ἦν, εὖ οἶδα ὅτι κόλαξ τε ἂν ἔδοξεν εἶναι καὶ ἄπιστος ὅλως, ἐπεὶ δὲ μάρτυρες πάρεισι τῶν τηνικάδε πεπραγμένων πολλοί, οὐκ ὀκνητέα ἡμῖν ἐπὶ τὰ τοῦ λογοῦ λειπόμενά ἐστιν. οἱ μὲν οὖν τεχνῖται τὰ ἐπιτεταγμένα ἐποίουν, ἡ δὲ ἀψὶς ἐπ' ἀσφαλοῦς ἠώρητο πᾶσα, ἐπισφραγίζουσα τῇ πείρᾳ τὴν τῆς ἐννοίας ἀλήθειαν. τοῦτο μὲν οὖν ταύτῃ ἐξείργασται, κατὰ δὲ τὰς ἄλλας ἀψῖδας, αἵ τε πρὸς μεσημβρίαν τετραμμέναι εἰσὶ καὶ βορρᾶν ἄνεμον, τοιόνδε ξυνηνέχθη γενέσθαι. οἱ μὲν λῶροι καλούμενοι τοῦ νεὼ τῇ οἰκοδομίᾳ ἐξωγκωμένοι ἠώρηντο, βαρυνόμενα δὲ αὐτοῖς ἐπεπονήκει τὰ ἔνερθεν πάντα, κίονές τε οἱ τῇδε ὄντες χάλικας μικροὺς ὥσπερ ἀποξύσθεντες ἀφίεσαν. καὶ αὖθις μὲν ἄθυμοι τοῖς συμπεπτωκόσιν οἱ μηχανικοὶ γεγενημένοι τῷ βασιλεῖ τά σφισι παρόντα ἐσήγγελον. αὖθις δὲ ὁ βασιλεὺς ἀντετεχνήσατο τάδε. τούτων δὴ τῶν πεπονηκότων τὰ ἄκρα ὅσα τῶν ἀψίδων ἐπέψαυε, διελεῖν μὲν ἐν τῷ παραυτίκα ἐκέλευσεν, ἐντιθέναι δὲ πολλῷ ὕστερον, ἐπειδὰν τὸ τῆς οἰκοδομίας ὑγρὸν ἀπολωφήσειεν αὐτοῖς μάλιστα. καὶ οἱ μὲν κατὰ ταῦτα ἐποίουν· ἡ δὲ κτίσις διαγέγονε τὸ λοιπὸν ἐν ἀσφαλεῖ οὖσα. φέρεται δὲ τι μαρτύριον ὁ βασιλεὺς τοῦ ἔργου τοιόνδε.—Procopius, *De Aed.* I. 1 seq.

[1] Zonaras IV, 6; Cedremus I, 650.

[2] Combesis; Anonymus Banduri; Codinus; Cf. Richter 52, p. 24.

[3] Glycas IV, 495.

[4] This statement is obviously inconsistent with the date given by Zonaras and Cedremus for the beginning of the construction, for it implies that work was commenced on January 16, 532, or only seven instead of forty days after the fire.

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and he eagerly commenced the labor of rebuilding the temple."[1] The dome in this rebuilding was made higher[2] by twenty feet according to some authorities,[3] by twenty-five according to others.[4] The construction was strengthened by thickening the great piers so that they partially choked the aisles — a disposition which they still retain. The church was consecrated anew in the year 563.[5] In 567, or only four years later, the dome seems to have again fallen, and to have been rebuilt by Justin II, this time ten feet lower.[6] The repairs of 567, however, seem to have been the last substantial alteration the church has undergone, and subsequent restorations were probably only such as were required for maintenance. Thus in 788 the west arch was strengthened,[7] and in the first half of the X century one of the other great arches had to be reinforced. In 987 the dome again fell in, but the damage must have been comparatively light, since it was repaired by flying scaffolds. In 1204 the crusaders pilfered from the church many of its finest furnishings, some of which are still to be seen in Venice. The walls were strengthened and the bema repaired in the XIV century. In 1453 the church fell into the hands of the Turks, and was converted into a mosque; the church furniture was entirely removed, the mosaics were covered with whitewash, and the exterior aspect was altered by the addition of various Turkish accessory structures. The first minaret was added by Mohammed the Conqueror; the second by Selim II (1566–74), who also repaired the western half-dome damaged by an earthquake; the western minarets were built by Amurath III, the successor of Selim

[1] Ἤδε μὲν σθεναροῖσιν ἐπεμβεβαυῖα θεμείλοις
σφαίρης ἡμιτόμοιο κατήριπε θέσκελος ἀντυξ,
μυστιπόλου δ' ἐντίναξεν ἐδέθλια πάντα μελάθρου·
πάντα δ' ὑπεσκίρτησεν ἐν ἄστεϊ βάθρα θεμείλων,
γαῖα δ' ὑπεστενάχιζεν ἐπὶ χρόνον· ἠερίαις δὲ
μισγομένη νεφέλῃσιν ὁμιχλήεσσα κονίη
οὐρανίης ἀμάρυγμα μεσημβρινὸν ἔσκεπεν αἴθρης.
. . . . . .
οὐδὲ μὲν εὐρύστερνος ὑπώκλασε μέχρι θεμείλων
νηός, ἀριστώδινος ἐελμένος ἄμμασι τέχνης·
ἀλλὰ μιῆς ἀψῖδος ἀπωλίσθησε κεραίη
αὐτολική, σφαίρης τε λάχος κονίῃσιν ἐμίχθη.
ἦν δὲ τὸ μὲν δαπέδοισι, τὸ δ' εἰσέτι, θάμβος ἰδέσθαι,
οἷά περ ἀστήρικτον ὁμιλέεν ἐκκρεμὲς αὔραις.
. . . . . .
Αὐτὰρ ἐμὸς σκηπτοῦχος ἀπότροπον ἄλγος ἀκούσας
οὐκ ἐπιδὴν ἐκάλυψε νόου σέλας, οὐδὲ κατηφὴς
ἠρεμέειν τέτληκεν ἀεργέος ἄμμασιν ὄκνου,
ἀλλὰ μινυνθαδίης ἀπεσείσατο κέντρον ἀνίης,
πρὸς δὲ πόνους ἧϊξε παλινδωμήτορας οἴκου.
— Paulus Silentiarius, 186–193, 198–204, 214–218.

[2] *Ibid.*

[3] Malala XVIII, 489; Theophanes, 6051.

[4] Zonaras XIV, 9.

[5] Theophanes, 6055; *Chronicon Pascale*, Ol. 335, 4; Malala XVIII, 495.

[6] Combesis, 252; Anonymus Banduri, 78; Codinus, 143. It is possible these accounts refer to the disaster of 558 under a wrong date.

[7] Constantine Porphyrogenitus, 54; Theophanes V, 79; etc.

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II. In 1847 Abdal Medschid determined upon a restoration to give the building again as nearly as possible its original form. The Italian architect Soffati deserves immortal fame for the rare judgment he displayed in carrying out this work. After four centuries the plaster was stripped off, and the mosaics shown again in their splendor, the faces only, forbidden by the Koran, being recovered with painted canvas. The church thus remains to-day, considering its age and the vicissitudes of its history, in wonderfully good preservation.

Hagios Bacchos ("St. Sergius and Bacchus," "Kutschuk Aja Sophia"). Procopius gives the following somewhat puzzling account of the construction of this church: — "And another of his [Justinian's] shrines was dedicated to the renowned saints Sergius and Bacchus, and at the side of this there was a second shrine. And the two churches did not face each other, but they stood side by side, adjoining and being evenly matched and having a common approach and being placed in enclosures precisely similar both in everything else and in their borders. And neither church appeared to be greater nor less than the other in beauty or size or anything else. For each equally reflects the sun in the gleam of its stones, and equally is each everywhere resplendent with abundance of gold, and is verdant with votive offerings. In one thing only do the two differ. For in one of them the plan has been laid out in a regular circle; but in the other the columns stand bulging out from this in semicircles.[1] And the two churches share a single portico before the doors, called a narthex — [*i.e.*, a reed] — on account of its length. And the gate of the atrium is common to them both, and the atrium itself and the great portals of the narthex and the entrance to the palace. And thus both these temples combine to be clearly an ornament to the entire city and no less to the palace."[2] These two churches both formed part of the Hormisdas, a private palace of Justinian.[3] Cedremos[4] states that the church was

[1] The interpretation of this sentence is doubtful. The second clause is usually taken as referring to a circular church and *ἡμικύκλῳ* is translated as 'circle' — I believe an unjustifiable liberty. I have consequently little doubt that I am right in taking this word as referring to the semicircular niches of columns at the corners of Hagios Bacchos (Ill. 72), and am only surprised that no one has proposed this translation before. The first clause is more difficult. The text itself would seem to imply a basilican plan; the context, however, has induced me to take the passage as referring to a circular edifice. It is unlikely that Procopius would have insisted so strongly on the similarity of the two structures, had they differed as radically as a basilican and a circular church.

[2] *Οὗ δὴ καὶ τέμενος ἄλλο ἁγίοις ἐπιφανέσι Σεργίῳ τε καὶ Βάκχῳ ἐδείματα, καὶ ἔπειτα καὶ τέμενος ἄλλο ἐκ πλαγίου τούτῳ παρακείμενον. ἄμφω δὲ τούτω τὼ νεὼ οὐκ ἀντιπροσώπω, ἀλλ' ἐκ πλαγίας ἀλλήλοιν ἑστᾶσιν, συνημμένοί τε καὶ ἀλλήλοις ἐνάμιλλοι ὄντες, καὶ τὰς εἰσόδους ἐπικοινουμένοι, καὶ ἴσα ἀλλήλοις τά τε ἄλλα πάντα καὶ τὰ κράσπεδα περιβεβλημένοι, καὶ οὐδέτερος οὔτε κάλλους πέρι οὔτε μέγεθους οὔτε ἄλλου οὐδενὸς πλεονεκτῶν ἢ ἐλασσούμενος δείκνυται. ὁμοίως μὲν γὰρ ἑκάτερος τῇ αἴγλῃ τῶν λίθων ὑπεραστράπτει τὸν ἥλιον, ὁμοίως δὲ χρυσοῦ περιουσίᾳ πανταχόθι κατακορής ἐστι καὶ κατακομᾷ τοῖς ἀναθήμασιν. ἐνὶ μέντοι διαλλάσσουσι μόνῳ. τὸ μὲν γὰρ μῆκος αὐτοῖν τῷ μὲν κατ' εὐθὺ διαπεπόνηται, τῷ δὲ οἱ κίονες ἐν ἡμικύκλῳ ἐκ τοῦ ἐπικλεῖστον ἑστᾶσιν. ἔστι δὲ αὐτοῖς μία μὲν ἡ ἐπὶ τῶν προθύρων στοὰ ἐπὶ τοῦ νάρθηκος τῷ περιμήκης εἶναι ὠνομασμένη. ἐπὶ κοινῆς δὲ προπύλαια πάντα, ἥ τε αὐλὴ καὶ μέσαυλοι θύραι καὶ τὸ προσήκειν τοῖς βασιλείοις. οὕτω δὲ ἄμφω ἀγαστὰ τὰ ἱερὰ τάδε ξυμβαίνει εἶναι ὥστε διαφανῶς τῆς τε πόλεως ὅλης καὶ οὐχ ἥκιστα τῶν βασιλείων ἐγκαλλώπισμα τυγχάνει ὄντα.* — Procopius, *De Aed.* I, 4.

[3] Anonymus Banduri I, 45.

[4] I, 642.

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built in 528, and there is no reason to question this statement. Although the second church which Procopius describes as adjoining has disappeared, we are left in no doubt as to the identity of our monument, for an inscription on the frieze recalls the dedication by Justinian and Theodora. The plan (Ill. 72) at present is not exactly true in line — possibly this results from later alterations. The general scheme is symmetrical, and consists of a central octagon surrounded by a square external wall. The four angles of the octagon are bulged outwards in semicircles (Ill. 72), so that the nave is of the shape of a square with rounded corners. An apse is built out to the east and the western narthex still survives. The dome — most strangely serrated — rests on proto-pendentives.

Hagios Ioannos (St. John of Studios, now Imrachor Dschamissi). Two brief notices constitute all our documentary evidences for the date of this church. The first, referring to the sixth year of Leo the Great or 463, states that "Studios built the church of the Baptist and put therein the monks of the Alcoimetoi."[1] The second, merely notes that in the year 627 "Bonus was buried in the church of Hagios Ioannos.[2] The only other historical text bearing on this church is a brief notice in Suidas mentioning a restoration after the Latin conquest of 1204. When Constantinople fell into the hands of the Turks, the famous Turkish architect Sinan converted Hagios Ioannos into a mosque. The venerable basilica suffered so heavily in these alterations, that practically the only surviving remains of the V century building are the lower colonnades with their stone architraves. The existing upper colonnades are of wood and modern. The apse has been shut off from the rest of the building — its vault is now lost, and the walls stand only to one third their original height. This apse was originally three-sided externally, and was very low, rising only to the height of the galleries.[3] The nave is eight bays long. At present there are galleries but no clearstory, but this does not represent the original dispositions. The atrium and the narthex (which was probably in two stories) have disappeared leaving only a few faint traces. Altogether the interest of the building centers well-nigh exclusively in the nave capitals (Ill. 67), the best, and almost the sole, examples we possess of the transition from Roman to Byzantine decoration.

Hagia Eirene, or Church of the Holy Peace, wrongly known as "Sta. Irene" was founded by Constantine[4] on the site of a pagan temple[5] and of a still earlier church.[6] In the time of Paulus, third patriarch under Constantine, Hagia Eirene became the seat of the patriarch and the cathedral church of the Eastern capital.[7] Rebuilt by Constantius[8] it was doubtless destroyed by the great fire of the Nika sedition in 532, the same which destroyed the neighboring church of Hagia Sophia, for there is documentary evidence that Hagia Eirene was rebuilt by Justinian shortly after this.[9] Procopius states that as thus rebuilt it was second to none of all the churches of Constantinople, save only to Hagia Sophia, which now became the cathedral. The church suffered in the fire of 564[10] and seems to have been destroyed by an earthquake

[1] Theophanes, 6955; Codinus, *Excerpta*, 102.
[2] *Chronicon Pascale*, Ol. 351, 4.
[3] Salzenberg's Plates.
[4] Nicephorus Callistus VII, 49.
[5] *Ibid.*; Anonymus Banduri, 31.
[6] *Ibid.*; Photius, *Life of Paulus*, 1417.
[7] *Ibid.*, 1419.
[8] Socrates II, 16.
[9] Procopius, *De Ædificiis* I, 2.
[10] Theophanes, 6053.

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of the early part of the VIII century. The present structure probably dates almost entirely from this time, but has never been examined with sufficient care to determine whether any parts of the building of Justinian still survive, and how much, if any, of the original dispositions are preserved in the present plan. The edifice today consists of a nave of two great bays, each covered with a dome. One of these domes is raised on a lofty drum. The nave is surrounded by aisles, and is furnished with the customary apse and narthex. (Salzenberg.)

Hagios Theodoros was built, according to Procopius, by Justinian in the reign of his uncle Justin I. The plan is said to have been similar to that of the church at Myra. Some traces of Hagios Theodoros are said to survive, but have never been adequately published. (Lewis.)

Church of the Chora, the present Mosque Kahireh or Kahriyeh, was founded, perhaps, as early as the III century, but was rebuilt by Justinian (527–565). It was later remodeled in whole or in part by Theodoros Metochites. A few fragments of this building of the VIII century still survive. (Texier and Pullan.)

Monuments of the Second Class

RAVENNA, Emilia, Italy. *S. Vitale* (Ill. 69, 70, 71, 73, 76). This great monument of Byzantine art was erected by Julianus Argentarius by order of the archbishop Ecclesius (521–534) as we learn from an inscription still preserved in the church: "At the command of Bishop Ecclesius, a most blessed man, Julianus Argentarius built from the foundations, decorated, and consecrated the basilica of the blessed martyr Vitale, the most reverend Bishop Maximianus dedicating the same on the nineteenth day of April, the sixth year after the consulate of Basilius Junior.[1] That is, the consecration took place in 547, work doubtless having been delayed by the Byzantine invasion of Italy and the siege and capture of Ravenna by Belisarius in 540. An epigram which, according to Girolamo Fabbri,[2] could formerly be read above the bronze door of the chapel Sancta Sanctorum confirms this inscription. I translate the lines bearing on the history of the church: "The lofty temple rises with venerated dome, the temple consecrated to God in the name of Vitale. Ecclesius first entrusted the building of this house to Julianus, who in wonderful wise accomplished the work confided to him."[3] Another inscription in the chapel of Isaaccio Esarca confirms

[1] B. Martyris Vitalis Basilicam mandante Ecclesio Viro Beatissimo Episcopo a fundamentis Julianus Argentarius ædificavit, ornavit, atque dedicavit, consecrante vero Reverendissimo Maximiano Episcopo sub die XIII [Kal. Maii] sexies P. C. Basilii Junoris.

[2] *Memorie Sacre*, Parte I, p. 361.

[3] The entire epigram is as follows:

Ardua consurgunt venerando culmine templa
Nomine Vitalis sanctificata Deo,
Gervasiusque tenet simul hanc Protasius arcem,
Quos genus atque fides templaque consociant.
His Genitor natis fugiens contagia mundi
Exemplum Fidei martyrii fuit.
Tradidit hanc primus Juliano Ecclesius arcem,
Qui sibi commissum mire peregit opus.

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these other sources. "Julianus Argentarius, the Servant of Christ, in sight of all built this basilica from its foundations."[1] Furthermore, in the mosaics of the gallery St. Ecclesius is represented with the model of the church in his hand, and St. Maximianus stands next to him in the act of consecrating it. The four famous mosaics on the sides of the apse probably indicate that Justinian and Theodora (who are there represented) were liberal contributors to the church. Monograms of St. Ecclesius and of Julianus are still to be seen carved on the stilt-blocks of the capitals; monograms of Narses are also said to have been deciphered amid the decorations, although the church was finished and consecrated before that general came to Italy. In 1782 the Renaissance mutilations which now disfigure the church were carried out by Borozzi. In the main, however, the VI century building is still admirably preserved. Although later in date than Hagia Sophia, this monument exhibits an earlier phase of Byzantine art, — a fact probably to be explained by its distance from the capital. Thus the dome is supported on arched squinches, not on pendentives. The plan consists of a simple octagonal central area, surrounded by an aisle and gallery, the apse built out to the east end, and a narthex added to the northwest. But between each pillar of the central octagon there open two-storied niches, each divided by columns into three lesser bays. These niches choke somewhat the circulation of the aisle and of the gallery, which is, indeed, the chief criticism of this plan. The system of construction is worked out with great cleverness, if also perhaps with over-caution. The dome is constructed of earthern pots[2] and therefore has a very light thrust. This thrust, by means of the window openings, is concentrated on the eight central piers which in turn are reinforced by buttresses deeper than the width of the aisle. The aisle and gallery pass through these buttresses by means of arches. Between the piers the dome is buttressed by the half-domes of the niches. (Ricci; Dehio.)

S. Apollinare in Classe (Ill. 42) was built at the command of the bishop Ursicinus (535–538) by the same architect — Julianus Argentarius — who constructed S. Vitale, and was consecrated in 549 by the bishop Maximianus as is known from an inscription still preserved in the church: "Julianus Argentarius at the command of Bishop Ursicinus, a saintly man, built from the foundations, decorated, and consecrated [this basilica] of St. Apollinare the priest. St. Maximianus the bishop assisted at the dedication, on the 22d day of April, the 12th indiction, the eighth year after the consulate of Basilius."[3] Subsequent to this dedication, a restoration by Otto III (983–1002) is commemorated by an inscription. It is evident, however, from the monument itself, notwithstanding its good preservation, that at some period it has long stood unroofed and open to the weather. The exterior of this church in

Hoc quoque perpetua mandavit lege tenendum
His nulli liceat condere membra locis.
Sed quod Pontificum constant monumenta priorum
Fas ibi sit tantum ponere, sed similes.

[1] Iulianus Argent. Servus Iesi. Præcibu. Est. Basi. a Funda. Perfec.

[2] Barozzi.

[3] Beati Apollinaris Sacerdotis mandante Viro Beatissimo Ursicino Episcopo a fundamentis Julianus Argentarius ædificavit, ornavit, atque dedicavit, consecrante vero B. Maximiano Episcopo die VIIII Majarum Ind. XII octies P. C. Basilii.

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its present conditions is very simple. Of the atrium which originally preceded it — as is known from a passage of Anastasius Bibliothecarius — there remain only faint traces of the foundations, but fragments of the ancient narthex are still to be found confused with the walls now forming the façade of the church. This façade was formerly flanked by two square structures, of which the northern was destroyed not long ago, while the southern still exists. Three arches built into the wall of the latter seem to justify the conclusion that these anomalous structures were originally supported on colonnades. The rest of the exterior is less puzzling. The clearstory walls are ornamented with a series of blind arches in brickwork, in each of which, it is probable, was originally pierced a window. The apse (which is externally polygonal) is flanked by two square chapels with little eastern apses. All the apses are expressed on the exterior, yet there are cells in two stories built in the thickness of the wall between the main apse and each chapel. In the interior, the dispositions are those of a normal three-aisled basilica. The roof, decorated as a starry heaven by Crisafia (who was sent from Rome by Leo III in 815 for this purpose),[1] has long since disappeared, as have the mosaics which once adorned the triforium, and the precious marbles of the wainscotting, which were carried off by Malatesta in the XV century to build the temple of S. Francesco at Rimini. Gone too is the ancient pavement in *opus alexandrium*. And yet the old basilica still retains an extraordinary number of interesting accessories. The priceless mosaic of the apse is the original of the VI century. The episcopal throne is the very one given by Damianus (688–705) as is witnessed by the inscription that it bears. Above the altar of S. Felicola is a marble ciborium with columns spiral-fluted; this ciborium, according to the inscription, dates from the early part of the IX century. The little altar in the middle of the church is believed to be that erected by Maximianus Orsus in the IX century. When the original silver ciborium of the main altar was destroyed by the Saracens in 846, Archbishop Domenicus (889–898) replaced it by a new ciborium with four columns of black and white marble. These were retained when the ciborium was made over in 1723. In 1783, however, they were carried off to the church of S. Romualdo, but were later restored to S. Apollinare, and placed by the side entrance, where they may yet be studied. (Ricci.)

SALONICA, Thessalonica, Turkey. *Hagios Demetrios*. There is very little documentary evidence for the date of this important monument, the only text known being certain fragments of an edict of Justinian II (685–695) discovered by Papageorgios. Since the church is mentioned in this edict, it must be at least as old as the VII century, and in fact it is now usually assigned to a much earlier period — the middle of the V century. It is a structure of the basilican type, with five aisles, galleries, and an internal transept, but the plan is peculiar in that the aisle is returned across the west end. The columns support arches. The capitals, for the most part Composite, although the basket and other types occur, bear stilt-blocks, and are fine examples of the last stages of the transition to the Byzantine style. The archivolts of the arches are inlaid instead of being carved. The apse has five windows separated externally by half columns bearing an engaged arcade.

[1] Agnello, *Lib. Pont.* II, p. 446.

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Hagia Sophia. This church has usually been assigned to a period of the reign of Justinian, subsequent to the erection of the great Hagia Sophia at Constantinople. M. Petros Papageorgios, however, has deciphered a mosaic inscription which he thinks definitely fixes the date of the construction of the edifice as 495. The vital numerals at the end of the inscription were defaced, but there is no doubt the last fragment was part of an Σ, and, since there was room for only one more letter, Σ Δ or 6004 (496 A.D.) is the only year that will fit the fourth indiction, mentioned in the inscription. I understand that a monograph is being written by the architect Bubroff to prove that the architecture of the church is of the style of the V century. The building itself consists of a central dome supported on four enormous piers. The screen walls between these piers are set far back to the outer edges of the piers so as to make the plan of the central area cruciform. The aisle runs around the north, west, and south sides, and the exterior walls are square in plan. There are three apses to the eastward, the central one pierced by three windows, the others each by one window. (Rivoira; Lethaby and Swainson.)

Eski Djuma, the present mosque, is a converted Christian basilica. There is no documentary evidence for the date, but the transitional style of the carving and decoration leaves no doubt that the building was erected in the V century. Rivoira, perhaps somewhat rashly, assigns it to the end of the first quarter of that century. The church was a three-aisled basilica with narthex and gallery, but no transepts. The capitals surmounted by high stilt-blocks are Composite, but Byzantine perforations have already supplanted the Latin undercutting. The columns bear arches without archivolts. There are three windows in the apse, separated by engaged columns bearing an arcade. (Rivoira.)

PARENZO, Istria, Austria. *Cathedral* is, according to an inscription, the work of the first bishop of Parenzo, Eufrasius, and consequently must date from between the years 535 and 543. Although the church has been restored several times in mediæval and modern times, it still retains in excellent preservation the original dispositions of the VI century. The plan is that of a three-aisled basilica with a single apse pierced by four windows and polygonal externally, though the aisles end internally in circular niches. The nave is ten bays long. The capitals surmounted by stilt-blocks are of a pure and especially charming Byzantine type. The intrados of the arches is ornamented with a stucco decoration, dating from the VI century. Monograms of Euphrasius are carved on the stilt-blocks and elsewhere throughout the church. The atrium is still in admirable preservation. The adjoining octagonal baptistery, whose apse projects and whose walls are decorated with four circular and two rectangular niches, is roofed in wood, and is contemporary with the basilica. The ciborium of the church dates from 1277 and the campanile is of the XV century.

Monuments of the Third Class

GRADO, Istria, Austria. *Dom.* A mosaic inscription records that the church was rebuilt by the patriarch Elias (571–586). The plan is basilican, with three aisles, and an apse polygonal externally, but there are no transepts. The columns separat-

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ing the aisles carry arches. The original pavement survives and is most interesting; it consists of a mosaic of brightly colored marbles in varied designs, mingled with inscriptions. An arcaded porch extends across the façade, but one of the five openings has been filled up by the later campanile. The church contains an ambo of unknown but early date. (Dehio; Holzinger; Jackson.)

GERIZIM, Palestine, Syria. *Hagia Maria* is said by Procopius [1] to have been erected by the Emperor Zeno, not earlier than 474, in honor of the Blessed Virgin. He tells us further that Justinian after 529 built the external wall of the court, thus transforming the church into a fortress. Considerable remains of this church have lately been described. It was a building octagonal in plan with an apse on the east side. The main entrance was to the north. On five or possibly on six of the sides there were small chapels. The only capital uncovered was of a debased Corinthian order. (Stewart's Procopius.)

MT. SINAI, Palestine, Syria. *Hagia Maria* was built by Justinian, "not on the summit of the mountain, but a long way below it, for it is not possible for a man to pass the night on the peak, because at night continuous thunderings and other yet more terrible divine manifestations take place which overpower men's strength and reason." [2] This church still exists, and retains, despite many medieval and modern alterations, a considerable part of the VI century mosaics. It is octagonal in plan, with an aisle and an apse. Unfortunately, visitors to this monastery have been so taken up with the search for manuscripts, that they have given but scanty descriptions of the interesting church.

BETHLEHEM, Palestine, Syria. *Church of the Nativity.* This church, whose nave was built by Constantine (see Early Christian monuments, p. 202), is generally believed to owe its present apse and transepts to Justinian on the strength of the following passage from Eutychius: "For the Emperor [Justinian] ordered the legate to demolish the church at Bethlehem (which had hitherto been small), and to build another spacious, great, and beautiful, so that even the Temple of Jerusalem might not be more beautiful. But the legate, when he came to Jerusalem, founded a hospital for pilgrims, and restored the churches that the Samaritans had burned, and built as many monasteries as possible; but at Bethlehem, he merely tore down the church, and built it again in the same manner as it had been before. When after having done these things he returned to the Emperor; 'tell me,' said the Emperor, 'how thou hast built the church at Bethlehem?' When the legate described what he had done, the Emperor in no wise approved his description, nor was he at all pleased with the legate himself, but, on the contrary, he was very angry with him. 'The money I gave thee' he said, 'hast thou kept for thyself, and thou hast built a building of evil appearance, and thou hast made a church dark and in no way as I commanded, nor hast thou followed my behest.' And he ordered him to be put to death." [3] Against this it should be stated that Procopius, a far more reliable author, in a work specially

[1] *De Ædificiis* V, 6.

[2] Procopius V, 8, Stewart's translation.

[3] I translate Pocock's Latin translation (Oxford, 1658) Vol. II, pp. 159, 288, as I have been unable to obtain a copy of the original text.

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devoted to the buildings of Justinian categorically mentions several minor repairs to the city walls and the church of the Abbot Ioannes at Bethlehem, but is entirely silent on the church of the Nativity.[1]

DOCLEA, Montenegro, Turkey. *Basilica* is a Byzantine structure, to which it is impossible to assign a date on the basis of the inadequate publication by Munro. There are three aisles, separated by two ranges of columns of odd sizes and for the most part pilfered. A very few of the capitals seem to be original, and are strongly Byzantine in character. A narthex and several unexplained rooms adjoined the church. The floor of the apse is raised 8″ and a platform 19′ × 15′ extends in front of the bema. The apse itself next to Sta. Fosca at Torcello is the best extant example of the arrangement of furniture in early Christian churches. The seats for the clergy running around the walls are perfectly preserved, and the foundations of the bishop's throne are still in place. The atrium is placed on the south, instead of on the west, side of the church — an arrangement unprecedented outside of Syria. This important monument has only been partly excavated, but the walls still stand to the height of from 3′ to 5′. (Munro.)

Small Church. The existing remains are little more than the foundations, but the plan can still be traced. This was in the form of a Greek cross (10.5 × 7.35 metres internally) with a small apse added at the end of one of the arms. A larger apse was later built on unsymmetrically. A porch was placed at the west end. The church is believed to date from between 518 and 639. (Munro.)

AYASALOUK, [Ephesus], Smyrna, Turkey. *Hagios Ioannos.* I translate the account of this church in Procopius. "It is placed upon a hill some distance before the city of the Ephesians, and on this hill it is not possible to grow fruit (should any one try), for the hill is wholly barren and sterile. There the inhabitants of a former time had made a shrine to the Apostle John, surnamed Theologos. . . . And this building, small and fallen into disrepair by lapse of time, the Emperor Justinian tore down to its foundations, and rebuilt it in such size and beauty, that, to speak concisely, it was a most worthy building and a companion in everything to that temple which he dedicated to the Holy Apostles in the imperial city, which has been described by me above."[2] — "The immense blocks of brick masonry lying here and there, and coming from the fallen vaults; the bases of four strong piers still in situ; the fine western sustaining walls; the capitals with the Greek cross; — all these form so many proofs that it was indeed here that Justinian, about 540, erected the celebrated church, which by its splendor and magnificence equaled that which he had dedicated to the

[1] Procopius, *De Ædificiis* V, 9.

[2] *Χῶρόν τινα πρὸ τῆς Ἐφεσίων πόλεως ἐν ὀρθίῳ κείμενον ξυνέβαινεν εἶναι, οὗ γήλοφον οὐδὲ δυνατὸν ἀφεῖναι καρπούς, εἴ τις πειρῷτο, ἀλλὰ σκληρόν τε καὶ τραχὺν ὅλως. ἐνταῦθα νεὼν οἱ ἐπιχώριοι ἐν τοῖς ἄνω χρόνοις Ἰωάννῃ τῷ ἀποστόλῳ ἀνέθηκαν θεολόγῳ τὴν ἐπίκλησιν. θεολόγος δὲ ἀπόστολος οὗτος ὠνόμασται, ἐπεὶ τά γε ἀμφὶ τῷ θεῷ ἄμεινον αὐτῷ ἢ κατὰ ἄνθρωπον δεδιήγηται φύσιν. τοῦτον δὴ τὸν νεὼν Ἰουστινιανὸς βασιλεὺς βραχύν τε ὄντα καὶ καταπεπονηκότα τῷ μήκει τοῦ χρόνου καθελὼν ἐς τὸ ἔδαφος, ἐς τοσόνδε μεθηρμόσατο μεγέθους καὶ κάλλους, ὥστε δὴ, ξυνελόντα εἰπεῖν, ἐμφερέστατος καὶ παντάπασιν ἐνάμιλλος τῷ ἱερῷ ἐστιν, ὅπερ ἐν πόλει τῇ βασιλίδι τοῖς ἀποστόλοις ἀνέθηκε πᾶσιν, ὥσπερ μοι ἐν τοῖς ἔμπροσθεν δεδήλωται λόγοις.* — Procopius, *De Aed.* V, 1.

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Holy Apostles at Constantinople. . . . This church replaced a former smaller one; it contained the tomb of the well-beloved [1] apostle." [2] (Weber, 13.)

BAGNACAVALLO, Ravenna, Italy. *Pieve di Pietro in Sylvis*, a monument of the Byzantine school, is assigned to 564 by Rivoira. The interior consists of three aisles separated by two ranges of six piers of "T"-shaped section. The pilaster engaged on the face of these piers — probably to give greater stability — stops before reaching the level of the roofs of the side aisles. The plan of the structure is irregular, one side aisle being much wider than the other. The apse is polygonal externally, and is adorned with pilaster strips and arched corbel-tables; the façade is also decorated with pilaster strips. The windows of this church are double splayed — according to Rivoira, the earliest known example of this feature.

POMPOSA, Ravenna, Italy. *Sta. Maria* is usually supposed to be about contemporary with S. Apollinare in Classe of Ravenna, but among the capitals of the arcade are two so crudely executed that it is easy to believe that the original basilica was restored in the VIII century. A further restoration was carried out in the time of Abate Guido (1008–46). The church internally is divided into three aisles nine bays long. The archivolts are in stucco. Of the three apses, the central one is polygonal externally, and is adorned with pilaster strips; the façade is divided by the same ornament into three parts, which, however, do not seem to correspond with the interior divisions. The portico was added in 1026, and the campanile in 1063. (Rivoira; Venturi, 152.)

SALONE, Dalmatia, Austria. *Kirche.* The city of Salone was destroyed in 639. The substructions of the basilica seem clearly to be anterior to this date. The plan was of the usual type, the main body of the edifice being preceded by an atrium and narthex. The apse opened on the transept, and a choir screen separated nave and sanctuary. A second side aisle to the north was entirely bordered with chapels in the form of absidioles. A baptistery, paved in mosaic, adjoined the church.

Other Monuments

MEMBIDJ, [Hierapolis], Aleppo, Asia Minor. *Church*, now in ruins. There is no trace of any apse, and the aisle does not seem to have had a second story or gallery. Unfortunately this interesting monument has not been adequately described. (Holtzinger.)

KOJA KALESSI, Isauria, Turkey. *Church* is assigned to the V century apparently without satisfactory grounds. The plan is a combination of the basilican and circular types. A square domed area is lengthened westward by two basilica-like bays, and eastward by an apse. The aisles terminate in rectangular chapels flanking the apse, which is masked externally. There seems to have been a western narthex and triforium galleries over the aisles. (Lethaby and Swainson.)

NICAEA, Bithnyia, Asia Minor. *Church.* "A very small church still stands within the present town which from its mosaic floor and ceiling may probably be

[1] This is certainly a mistake. The John of Ephesus was not the apostle John, who probably never came to Ephesus. The two, however, become confounded by tradition at a very early epoch.

[2] I translate this passage from Weber.

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of the date of St. Mark's at Venice, or rather of the Byzantine age." May the church described by Fellows [1] in these words be the same that Procopius tells us was here founded by Justinian?

FORT YONSHA, Constantinople, Turkey. *Hagios Panteleëmon*, "which having been originally carelessly built and having been much ruined by lapse of time, was taken down by the Emperor Justinian, who built the church which now stands there." [2] Such is the notice in Procopius. Some ruins of this church are said to still exist, but have never been described.

JERUSALEM, Palestine, Syria. *El Aksa.* In the doors and some other parts of this mosque M. de Vogüé believes he sees remains of the Church of the Virgin, built by Justinian and described by Procopius. From the account of the latter we learn that Justinian built this church on a hill — the highest, indeed, of all the hills of Jerusalem and one whose summit was too small to accommodate the immense structure planned by the Emperor, so that ground for the foundations had to be filled-in artificially. The church had a wooden roof. Columns were employed in its construction, and these stood, some above, some below, and some around the porticoes which encircled the entire church, except on the side turned towards the east. There was an atrium, a narthex, and apparently several additional vestibules.[3]

DERBE, Asia Minor. *Church*, whose superstructure is now entirely destroyed. To judge from the fragmentary ruins that survive, the central space seems to have been covered by a dome supported on eight piers. The outer wall of the aisle was polygonal, and an apse projected to the eastward. The details of the monument are in the style of the time of Justinian. (Holtzinger.)

DAPHNI, Attica, Greece. *Monastery.* The present well-known structure dates from the XI and XIII centuries, but fragments of an earlier edifice have been found, dating probably from the V and VI centuries. (Roulin.)

D'ALA SHEHR, Asia Minor. *Church* is said to unite the dome with the basilican plan. (Choisy.)

SART, [Sardis], Brusa, Asia Minor. *Hagios Ioannos* is said by Choisy to show the beginnings of the transition to the Byzantine style.

Hagios Giorgios is said to unite the dome and the basilican plan. (Choisy.)

[1] P. 87.
[2] *De Ædificiis* V, 1, Stewart's Translation, p. 118.
[3] Procopius, *De Ædificiis* V, 5.

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CHAPTER IV

CAROLINGIAN ARCHITECTURE

HAGIA SOPHIA marks the ending of ancient art. The play is done, and the theater seems to remain dark and empty for a long period of five centuries. Not so, however, in reality — for in the Dark Ages there is indeed much, if faltering, accomplishment in architecture, and where all at first appears chaotic and formless, there is none the less steady progress towards a definite result.

It is the common usage among historians of architecture to dub with the name Romanesque all monuments of Western Europe erected between the years 550 and 1200, or thereabouts, and to define this supposed style as consisting of buildings which had ceased to be classic and had not yet become Gothic.[1] This definition, although it would seem to include the Early Christian and Byzantine architectures — styles not usually classed as Romanesque — might still do very well if we only knew exactly what was meant by the terms "classic" and "Gothic," but unfortunately the latter is even more vague and elusive than the word "Romanesque" itself. The matter is not simplified by the fact that it is impossible to find a single feature common to all the members of the so-called "Romanesque" style. The round arch, which used to be quoted in the handbooks as its distinguishing characteristic, is in reality not such at all; for Romanesque shares this feature with all modern and most ancient architectures, while, on the other hand, many buildings, especially in southern France, which are indubitably Romanesque use the pointed arch. Thus it is impossible to employ the term in a precise or scientific manner. For the rest, the etymology of the word, suggesting derivation from the Roman architecture, is apt enough. General, even vague, terms are at times extremely convenient; and I

[1] It was, I believe, M. Quicherat who first proposed this definition.

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have no ambition to quarrel with the accepted use of this word, or in any way to start a controversy similar to that which has reduced the perfectly good term "Gothic" from a position of comfortable meaninglessness to a point where no one any longer dares to use it. All I wish to emphasize is the fact that the word "Romanesque" *is* vague, and ask indulgence if for the sake of distinguishing explicitly the various periods which go to make up the so-called Romanesque style, I employ a somewhat unfamiliar terminology.

The ages which stretch from the middle or end of the VI century to about the year 1000 have always been recognized by archæologists — in so far as they have been recognized at all — as possessing an architectural style totally distinct from those which grew up in Europe during the XI century. French and German authors with more or less explicitness have been of recent years calling monuments of this era Carolingian, from the dynasty that was supreme in the West during the greater part of the period. This term, for lack of a better, I have adopted. Its great defect, as should be clearly recognized at the outset, is its lack of comprehension. The Carolingians flourished only from the close of the VII to the end of the IX centuries, and for only part of that time did they rule over the whole of Western Europe; and yet under the Carolingian period in architecture we include buildings erected from the last of the VI to the beginning of the XI century, and over lands comprising the present Italy, Switzerland, France, Holland, Belgium, Germany, and parts of Austria.

Of all periods of architectural history, this Carolingian era has been the most unduly neglected by archæologists and historians. Ignored by English writers absolutely, and glossed over by the French, its importance has been grasped, and then very imperfectly, only by the Italians and Germans. Moreover, the few archæologists who have busied themselves with this field have been interested exclusively in the monuments of their own particular locality. Hence it has resulted that no satisfactory account of this period has yet been written.

Carolingian architecture in itself, it is perfectly true, offers no such esthetic delights as classical or Gothic art. It can boast

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no masterpieces to rival Amiens or Hagia Sophia, in fact, but few monuments not actually mean and squalid. It is, however, far from being altogether dry and dull in itself, and it offers a vital interest in being the precursor of the noble architecture of the late Middle Ages. It is coming to be a more and more generally recognized principle of the study of art that the growth must be mastered before the bloom can be understood. No one would pretend to appreciate the Parthenon marbles in all their inner significance without a thorough knowledge of archaic sculpture. The study of Italian Renaissance painting always begins with the period of Cimabue or earlier. So there seems no reason for denying the Gothic cathedral — perhaps the loftiest expression human art has ever reached — that understanding and preparation found so necessary to the appreciation of the other arts. It is not too much to say that the Carolingian period offers one of the most important links in that wonderful chain of evolution that led from the Pantheon to Amiens. It is an era of great, of almost revolutionary changes, carried out, however, on so small a scale and so quietly as to be barely perceptible.

The study of this period requires considerable patient application of the microscope, for the monuments are not numerous, and are almost always baffling. Recent investigations, however, have revealed a considerable number hitherto unknown or little understood, so that the time-honored tradition that the Dark Ages have not left us sufficient data for a study of their architecture, is no longer true. A glance at the list of monuments of the period on page ~~302~~ 110 will show that there is much material for study. Some of these buildings are, it is true, of uncertain date; many others are in poor repair or have suffered from later restorations; and certain crucial periods confront us with a total lack of examples. On the other hand, our literary sources are unusually rich, and, on the whole, it seems hardly an exaggeration to say that this period offers us quite as much data for study as does, say, the Greek.

Probably the real reason that the Carolingian era has received so little attention from archæologists is the fact of its apparent confusion. For once in architectural history all laws

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of local relationship in style seem to have been broken. Occasionally three or four buildings in neighboring localities show a strong family resemblance.[1] But again two churches erected almost side by side and of about the same age will present scarcely any point of contact,[2] while the strangest analogies will crop out between buildings as widely separated as possible in point of time and geographical location.[3] Furthermore, what progress was made was not made consistently. Although many of the improvements usually credited to the later styles were in reality first invented in this epoch, such advances were, as a rule, not followed up, but remained isolated examples until they were adopted by a later age. So the first impression in glancing over the period is one of complexity and confusion, and this confusion, so far from disappearing with further study, must be emphasized as the leading characteristic of the era. To unravel all this complex tangle would be an undertaking in the present state of our knowledge impossible. Some of the main threads, however, lie near the surface, and by following these out it will not be difficult to form an idea of the character of the entire period.

Before dealing with the architecture proper, however, it will be well to call to mind certain historical events and conditions of the period. In no other epoch were social and economic causes more powerful in shaping the destinies of architectural art; in no other epoch is it possible to read so clearly the civilization of the time reflected in the monuments.

The death of Justinian in 565 left Italy in the hands of the Byzantines, but the rest of Western Europe was already ruled by the barbarians. And wherever the barbarians ruled, there all building, indeed almost all civilization, had stopped. Up to this moment (565) the Eastern Empire had continued to be a center of light and culture to the Christian world. But even during the splendor of Justinian's reign forces had been gathering that on his death plunged the Byzantine Empire in an abyss well-nigh as profound as that which had engulfed the West.

[1] *E. g.*, the group of churches at Frankfurt, Heidelberg, Seligenstadt, and Michelstadt-Steinbach.

[2] *E. g.*, St. Maria auf dem Berge at Würzburg and any of the above.

[3] St. Jean of Poitiers; Lorsch; St. Généroux.

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Chief of these forces was the economic exhaustion, brought about by Justinian's reckless expenditures and the relentless taxation by which he drained the life-blood of the state. He had conquered Africa and Spain; he had gained Italy after a twenty years' struggle; he had repulsed the Persians after an even more severe contest; withal, he had built sumptuously as has no other prince before or since. But in doing all this he had spent the force of his state. No sooner was Justinian's strong hand relaxed than from sheer exhaustion the Eastern Empire sank, in point of political and military power, to the lowest depths. Slavs, Visigoths, Persians, Lombards, preyed with impunity upon the helpless frontiers. In Italy, that province of the Empire which now specially claims our interest, this complete exhaustion following the terrible wars of conquest was succeeded by new misfortunes. In 542 a great plague swept over Europe and the East. It is estimated that one-third of the population perished in this calamity. Another pestilence followed in 566 which raged with particular violence in Italy. In 569 there was a famine; and the year before (568), the Lombards, the most barbarous of all the barbarian invaders, had swept down upon the desolate peninsula. In the terrible times that followed, when the Byzantines were driven from all Italy except Ravenna, when the West fell into complete barbarism, when wars raged from end to end of Europe, when commerce and all the arts of peace practically ceased, when roads fell out of repair and intercommunication became difficult, — in this time of upheaval and disorder the surprise is, not that building practically ceased, but that such times should have left us any monuments at all, however small and mean, and showing however sad a fall from the glories of the Byzantine art which had been in its zenith only a few years before.

A considerable group of these monuments of the declining VI century is extant along the northern and western shores of the Adriatic Sea.[1] In point of style they carry on the tradition of the early VI century with hardly a change, save in the falling-

[1] These monuments were accordingly so situated as to be especially exposed to the Byzantine influences radiating from Ravenna. It is probable that the style in the west and south of Italy would have shown these influences to a less extent.

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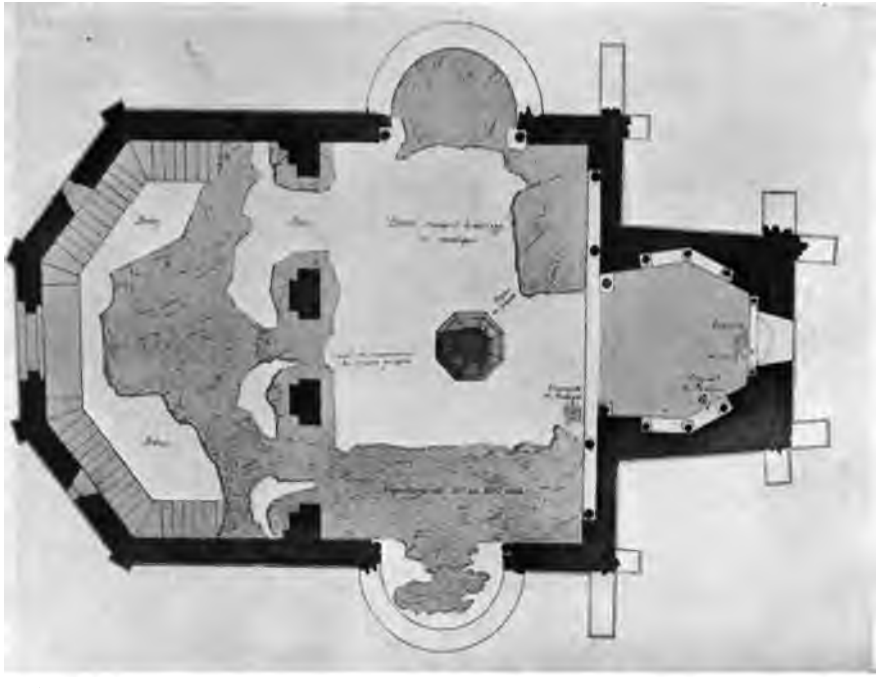

ILL. 80. — Plan of St. Jean, Poitiers. (From Arch. de la Com. des. Mon. Hist.)

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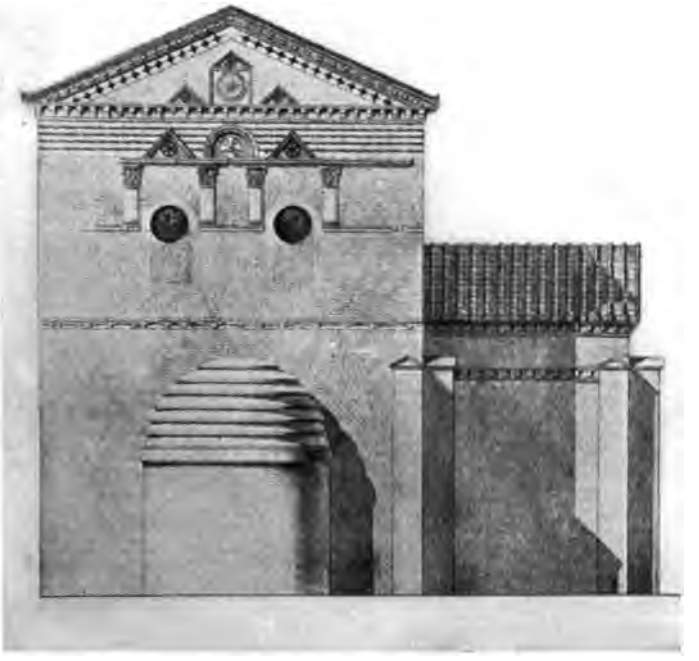

ILL. 81. — Rear Elevation St. Jean, Poitiers. (From Arch. de la Com. des Mon. Hist.)

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off of technique. They form, together with the basilicas of Ravenna, a class which we hardly know whether to call Early Christian, Byzantine, or Carolingian, — in fact, they are all three, and mark the point of convergence of these styles.

While Italy was thus plunged in barbarism, matters had gone from bad to worse north of the Alps. The VI and VII centuries in Gaul are a time of endless fratricidal civil wars, of continual strife between the rival Merovingian kingdoms of Neustria and Austrasia. Of all the rulers, Brunhildis (†614) alone was noted as a builder by the contemporary writers. After her death the royal power steadily declined, until towards the close of the VII century the Carolingian Mayors of the Palace grasped the reins of power, and undertook the task of bringing order out of confusion. It was, however, late in the VIII century before architecture began to revive in the land of the Franks.

Of all this period in Gaul we have only one important and authentic monument — the baptistery of St. Jean of Poitiers (Ill. 80, 81), — a building which proves how completely Byzantine influence had permeated all the West.[1] Beside these Eastern elements and the Latin tradition that underlies all Western architecture, at St. Jean of Poitiers there is unmistakably present a new decorative element — an element which, notwithstanding the heresy, I do not hesitate to call Germanic. Of this new element there will be much to say hereafter, and it will be seen increasing in prominence as time goes on.

Meanwhile, in Italy, especially during the VII century, the forces of decline and barbarism had been gathering strength. The important monument usually ascribed to this period — the chapel of Sta. Maria in Valle at Cividale — is in my judgment of too questionable authenticity to be used as evidence for the general course of the style. Other monuments seem to be characterized by a continued survival of the Latin or basilican

[1] In connection with the unmistakably Byzantine character of the earliest Christian monuments in Gaul, it is interesting to recall that Christianity itself came into Gaul from the East rather than from Rome. Colonies of Greeks had been established in Provence from a very early period, and it is precisely in these regions that are preserved the earliest Gallic Christian inscriptions that have come down to us. All Christian inscriptions of Gaul long continued to be written in Greek. For a capital discussion of this entire question see Lavisse, *Histoire de France*, Tome I[1], p. 3.

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plan. Ornamental sculpture, on the other hand, shows but faint traces of Latin tradition, its character being strongly Byzantine. But the Byzantine motives are often modified and changed, such variations probably having been brought about largely through the crudity of technique. In Italy it is difficult to detect the presence of distinctly Germanic motives before the VIII century.

The VII century is notable in Italian architectural history for the rise of the Comacini — a band of masons who seem to have moved about from place to place erecting buildings. The first mention of the name occurs in a document of the middle of the V century. Although little is known of this company or guild save the mere fact of its existence, it has received an extraordinary amount of attention from scholars, and has furnished the subject for a vast amount of conjecture. Freemasons have seen in the Comacini the origin of their order; Italian writers have advanced the most extravagant claims for the extent of their influence, and have attempted to prove that their name is derived from the city of Como, which, it is argued, must consequently have been the architectural center of Europe. However all this may be, the very fact of the existence of such a body of masons is perhaps significant.

In the VIII century there commenced in Italy a revival of art, and this revival later spread over all Western Europe and reached its culmination in the so-called Carolingian Renaissance. The art of Italy during this period is still strongly Byzantine, though the Eastern forms are considerably, if sporadically, modified.[1] The new, or Germanic, element of decoration makes its appearance in crockets, rosettes, and the rude figures of animals introduced no longer in a symbolic sense, but for the sheer

[1] Cattaneo traces throughout the Dark Ages direct continuous influence from Constantinople in Italian art. In this I cannot agree. There is nothing in all this decoration which could not easily have been derived from the Byzantine buildings already existing in Italy, at Ravenna, and elsewhere. At this period travel and intercommunication were difficult, and it is unlikely that architectural ideas should have been carried so great a distance. Finally, had the Byzantine ideas been imported from Constantinople, it is unaccountable that we should find in Italy no trace of the pendentive vault — the leading characteristic of the architecture of Byzantium after the building of Hagia Sophia. When in later times, at S. Marco in Venice or in the domed churches of the Charente, Western architecture was directly influenced by Constantinople, the pendentive vault was the first characteristic adopted.

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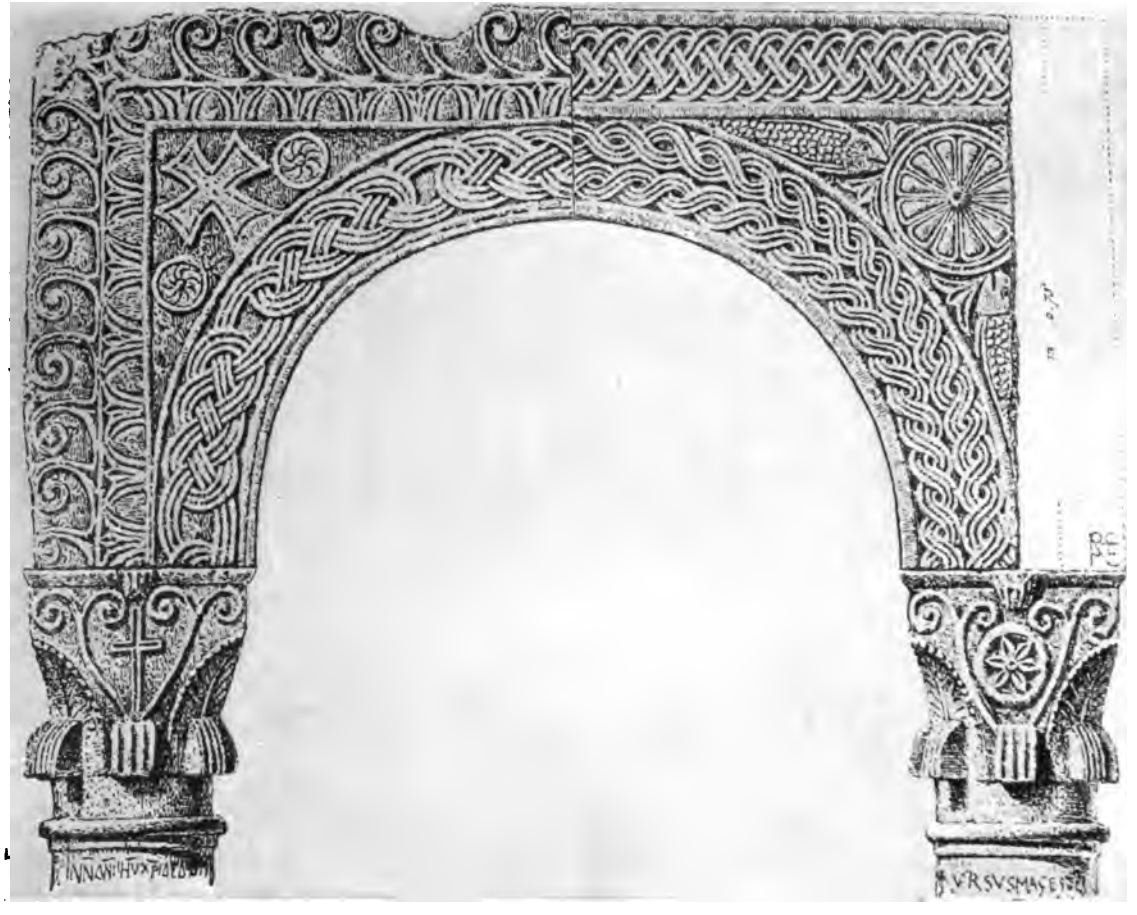

ILL. 82.—Archivolt of Ciborium of S. Giorgio, Valpollicella. (From Cattaneo)

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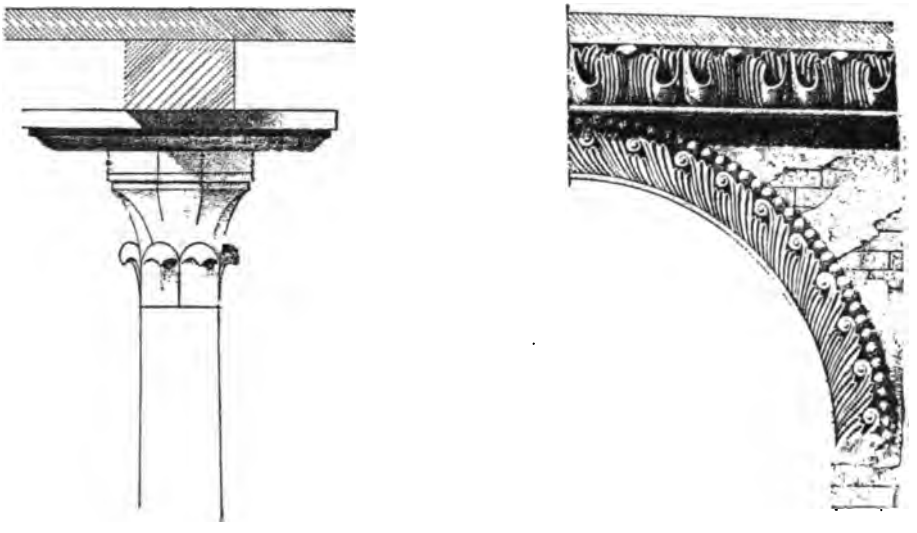
love of grotesque and humorous forms. Roman influence makes itself felt in many capitals, crudely imitated from the antique, and in the continued preference for the basilican plan. (Ill. 82, 83, and 84.)

During all this period the Carolingian house had been steadily rising in power. When in 771 Charlemagne became sole king, he immediately commenced those wars of conquest which ended by uniting under his empire all western Europe except



Ill. 83. — Details of Confessio of S. Salvatore, Brescia. (From Dartein)

Spain. In 774 the kingdom of the Lombards ended with the deposition of Desiderius. All Italy had fallen into the hands of the Frankish king. Twenty-six years later, in the ever-memorable year 800, Charlemagne was crowned Emperor of the West by the pope at Rome, and the fatal Holy Roman Empire was launched on its career of devastation.

Charlemagne was more than a conqueror; he was an enlightened statesman, under whose strong hand the forces of disorder and confusion which had swayed the previous centuries were momentarily checked. Law and justice began to make themselves felt, economic prosperity and the arts of peace revived. Charlemagne was also a friend of learning. He sum-

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moned to his court from all over his kingdom and beyond the most profound scholars that the world of that time had to offer; he founded something like a public school system; and he encouraged literature and the arts. The construction of no less than three great palaces attests the energy with which he set about rescuing architecture from the decline into which it had fallen. Part of one of these palaces, with the famous chapel belonging to it, is still extant in excellent preservation at Aachen (Aix-la-Chapelle), and stands to this day a witness to the ability of the Emperor and of his architects.

Under such encouragement, a great revival in both literature and architecture took place. It is, however, important to note the purely artificial character of this Renaissance. The builders to whom Charlemagne entrusted the execution of his buildings were savant monks, steeped in classical learning, who sought far off and with great labor the inspiration and even the materials for their edifices. The results which they obtained were precisely similar to those which the same learned men obtained in the field of literature. As their masterpieces of poetry were entirely artificial and merely a patchwork of plagiarized ideas and lines, so this court architecture of Charlemagne is forced and exotic.

And yet when the ages which preceded and those which followed are considered, the chapel at Aachen presents much more than respectable mediocrity. Although the plan (Ill. 85) is but a slight modification of that of S. Vitale at Ravenna (Ill. 73), the modifications that are introduced are innovations and improvements destined to influence profoundly later art. The superstructure (Ill. 86) is composed almost exclusively of pilfered materials, and not a particle of original carving is to be found in the entire building. Yet this material is combined in proportions which, if not delicate, still do not lack a sort of crude impressiveness, and the technique of the masonry is surprisingly good.

The chapel at Aachen represented the supreme architectural effort of the Carolingian age. The chroniclers tell us that Charlemagne summoned workmen from all the countries "this side of the sea" to aid in the work. It has long been a tradition

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ILL. 84. — Archivolt of Baptistery at Cividale. (From Dartein)

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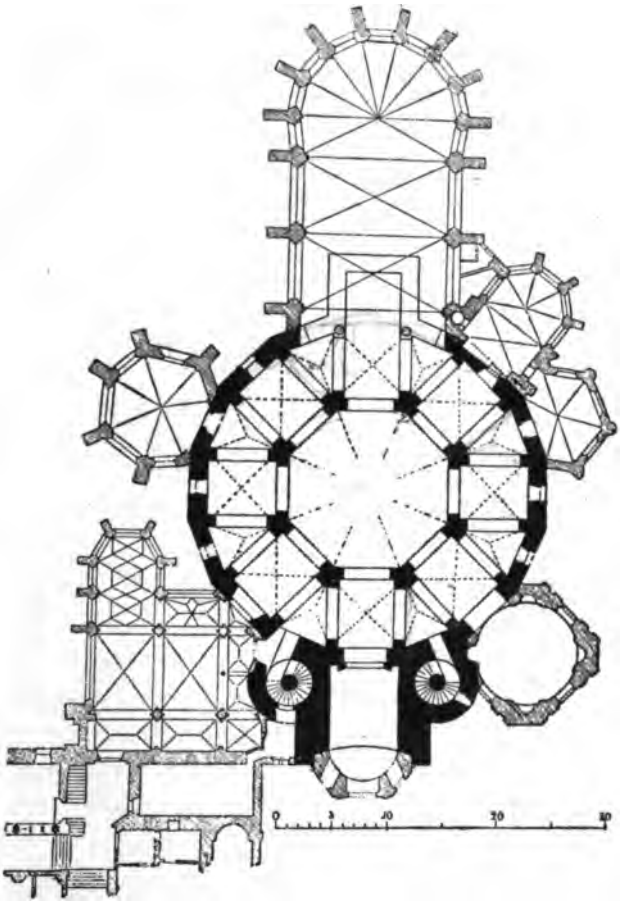
among historians that this statement refers to Italy especially, as up to this time the peninsula is usually assumed to have been the seat of architectural culture in the West. However, considering the fact that Charlemagne's model was the ancient



ILL. 85. — Plan of Dom at Aachen. (From Dehio)

church of S. Vitale and not contemporary Italian monuments, it may well be doubted whether he did not summon masons from wherever he could find them, and not necessarily from Italy exclusively.

At all events, from this time on, the dependence of northern nations on Italy in matters architectural ceases. Interchange of influence undoubtedly often took place, but northern

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architecture was no longer a mere echo of Italian ideas. In Lombardy, almost simultaneously, there began to be noticeable a drift toward the formation of a national style. The steps taken were hesitating, and there were many backslidings. Yet by the middle of the IX century there was progress, slight but definite, towards this goal.[1]

In the North the aimless drifting so characteristic of Carolingian architecture continued somewhat longer. Probably the achievement at Aachen actually worked against the formation of a national style. This exotic monument was vastly admired by succeeding ages, as indeed it deserved to be. Hence it came to be extensively imitated; there grew up in the North a whole school of edifices reproducing more or less exactly the characteristics of this prototype. This school continued to exercise great influence as late as the XI century. Some of the churches it produced are such free copies of their original that we should hardly suspect their derivation, were it not explicitly stated by contemporary authors; others are almost slavish imitations; but all are characterized by that same extraneous, unprogressive quality that marks the chapel at Aachen.

The architectural activity of the time of Charlemagne was not confined to Aachen and the churches imitated from it. A group of very important basilicas — two of which [2] were founded by Charlemagne's secretary, Einhard — grew up in the Rhine valley, and of these several are yet in part extant. These monuments, all built on a peculiar type of plan which invariably included three aisles, three semicircular apses, and projecting transepts, are called the "T-formed" basilicas by the German archæologists, and offer the most connected group of monuments that we have thus far met in the Carolingian period, although they cannot be regarded as forming a national or progressive style.

[1] The whole subject of Italian influences on the North and Northern influence on Italy is much controverted. A passage from Raoul Glaber is often quoted, in which it is stated that St. William, after having visited Italy, went on to France with a band of Italian artists (the greater part Benedictine monks), and that there he built magnificent churches. (See Cattaneo, p. 224). This appears to have been about the end of the X century. On the other hand, Fortunato (803–826) tells us that workmen were sent from France to restore the baptistery at Grado. (Cattaneo, p. 239). It is probable, however, that such migrations of workmen in either direction were unusual.

[2] Höchst-am-Main and Seligenstadt.

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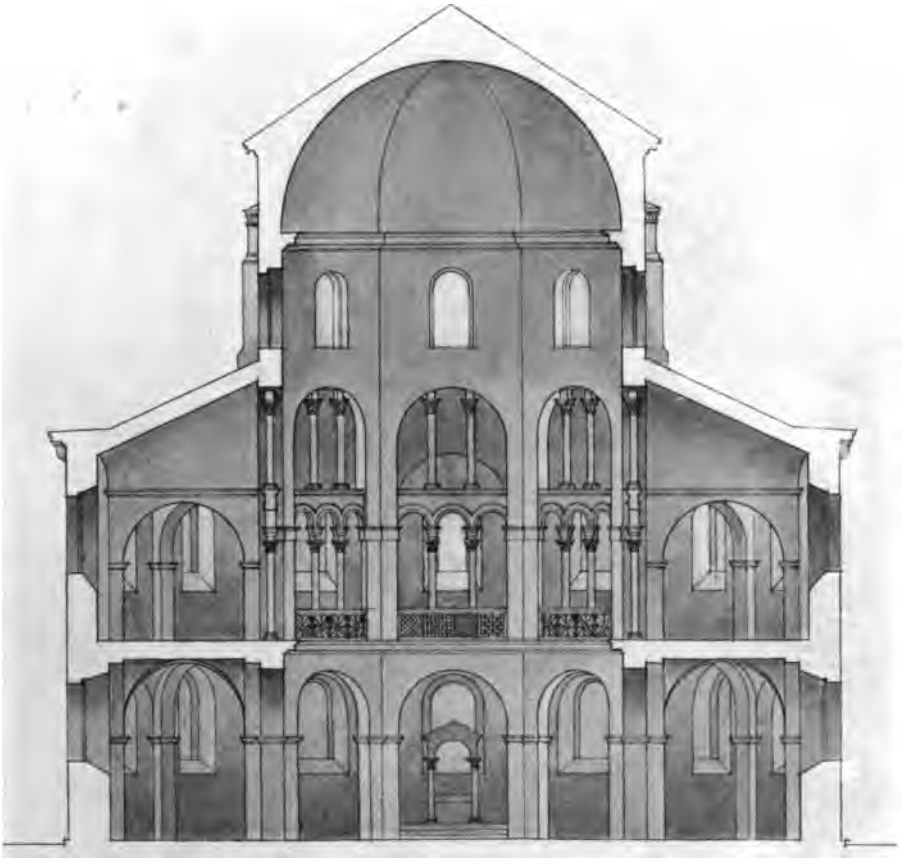

ILL. 86. — Section of Dom at Aachen

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On the death of Charlemagne (814) his empire passed entire into the hands of his son, Louis the Pious, but its decline had already begun. By the Treaty of Verdun (843) it was split into three parts, two of which afterwards formed the basis for the later nations, France and Germany. For a moment the Empire was again reunited under Charles the Fat, but he was entirely without power or capacity, and after a few years was deposed (887). Thus the territorial unity of the Empire was finally destroyed. In the very next year (888) the last legitimate Carolingian ceased to rule.

These years of disintegration were sad ones for European civilization. Culture never again sank quite so low as it had in the VII century, but the relapse from the age of Charlemagne was very marked. While Saracens, Hungarians, and, worst of all, the Northmen attacked the frontiers of the comparatively civilized center of western Europe, the strength of the Holy Roman Empire was frittered away in constant civil wars and new divisions of territory among its incompetent rulers.

Still another cause of the decline of culture was the growth of feudalism. Certain comparatively insignificant practices of private and illegal origin had arisen in the later Roman Empire, and these, continued in the early Frankish kingdom, had been developed under the pressure of public need into a great political organization extending over the whole West and virtually supplanting the national government.[1] This feudal sytsem was, perhaps, first firmly established at the battle of Testry (687) where Pippin of Herestal gained a victory no less for the feudal lords than for Austrasia. During the VIII and IX centuries, the system developed more and more power, owing to the political disorders of the time and the inability of the central government — even of so strong a government as Charlemagne's — to do the necessary work without some such help. The final step was taken about 877, when fiefs became generally hereditary. Henceforth, until at least the XIII century, the aspect of Europe was thoroughly feudal, and even in those parts where

[1] George Burton Adams, *Civilization during the Middle Ages*, New York, Scribner's, 1901. 8vo. p. 216. Chap. IX contains perhaps the best brief account in English of the feudal system.

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allodial lands largely predominated, as, for example, in central France, the state was as weak as elsewhere, and the real government as completely local.

Feudalism tended to break up Europe into a number of small and distinct states. In theory, since the lord who granted land to his vassals on condition of military service himself stood in the state of vassalage to the Crown, the system was highly centralized; but in practice this simple relationship was much complicated by a variety of circumstances, so that the general tendency was to exalt the barons at the expense of the king, and thus divide the land into thousands of warring principalities. At the beginning of the X century, when the process of disintegration had reached its height, practical anarchy and the rule of the strongest prevailed in the West. The history of the following three centuries is simply the story of the breaking down of these elements by the Crown and of the consequent rise of the modern nationalities.

The struggle was a long one, and it was only at the very end of the X century that sufficient progress was made to be reflected in the works of architecture. In Germany, the process of consolidation had been begun by Henry the Fowler as early as 919; by the end of the century it had reached very nearly its bloom. This incipient development of nationality found expression in architecture in the foundation of a distinctly German style before the year 1000. The western apse and transept, the crypt, the lengthened choir, the circular towers — all these characteristic features of the later Rhenish Romanesque — are found in churches of the X century. Beginning timidly in the early part of that century, the movement towards the formation of a progressive style gathered force as the year 1000 approached. Monuments of this class, although of the highest interest, clearly belong to a chapter of architectural history which lies outside the limits of the present volume.

In France, nationality developed later than in Germany. It is first visible politically in the election of Hugh Capet as King of France (987); but a united kingdom was still centuries distant, and national feeling must be sought, not in France as a whole, but in the several provinces, which soon came to be like so

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many separate nations. But even this local sense of nationality came into being late, and in reflection of this fact, until after the year 1000, the architecture of France remained truly Carolingian — formless, chaotic, unprogressive.

The early development of a local style of architecture in Lombardy at first glance seems somewhat surprising, for there is here politically no trace of the growth of nationality. Yet the formation of this school began as early as the IX century, thus anticipating even Germany. By the year 1000 it had evolved types more characteristic and distinctive than its Rhenish rival. Probably the fact that the feudal system was never established in Italy and the consequent rise of the cities brought about this early development. The city became in Italy the natural unit of administration. It fell under the control of a count and this person was also often a bishop. These cities, especially when situated near each other, banded together in times of danger against a common enemy; and the local patriotism which later formed the glory of Italian communes was doubtless operative even before the XI century.

Such, then, are the main external currents of Carolingian architectural history. The VI and VII centuries were a time of decay and barbarism, in which, however, was begun the fusion of the three separate elements contributed by the Romans, the Byzantines, and the Barbarians, although this fusion was not altogether completed until much later. This period was followed by the reign of Charlemagne, with its brilliant, if artificial, Renaissance. Finally, there came another period of decline, at the end of which emerged the beginnings of distinct national styles in Germany and Italy.

While architecture was undergoing such vicissitudes in response to the evolution of European civilization, the Church hierarchy was developing into a form and power that were fated to affect no less profoundly than that civilization itself the destinies of the art. Or perhaps it would be more exact to say that, while the larger economic currents determined that architecture should develop, it was the growth of the Church that determined in just what direction that development should take place. We have already remarked that medieval archi-

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tecture was predominantly ecclesiastical. In the Church was concentrated all the learning and culture, as well as much of the wealth, of the entire Middle Ages; to supply the Church with suitable monumental expression became almost the sole problem that architecture had to face. Hence whatever altered the character of the church edifice altered the entire character of the art.

The organization which the Church had come to assume in the Carolingian era was highly complex. The fundamental unit of the hierarchy was the bishop. This officer, it is probable, was originally the leading man of the congregation, but as the ritual developed he had become what is our idea of a priest. Later, when the original parish founded other missionary churches, the bishop of the mother church came to have a sort of authority over these younger congregations. This process was continued and extended until at last all Christendom had been blocked out into dioceses or sees, over all the churches in each of which the bishop of the diocese had jurisdiction. The bishop had his residence usually in the principal city of his diocese;[1] his church, here situated, was known as the *cathedral*[2] church.

While the bishops had thus been extending their power over that of the lesser clergy, the bishop of Rome — who came gradually to be known as *the* Pope — was extending his power not only over all the other bishops, but at last over all the kings and emperors of Europe. Gregory the Great (590–604) was the first to raise the papacy to a commanding position. Even at this time the "patrimony of St. Peter" — the worldly goods and chattels of the papacy — had become considerable, and as time went on this wealth continued to increase. The temporal power of the popes — the States of the Church — came into being in the VIII century by the famous donation of Pippin. The strength of the papacy, greatly augmented by the Frankist alliance, was still further increased by the weakness of the immediate successors of Charlemagne. Under Nicholas

[1] In England the residence of the bishop was often not fixed until as late as the XI century.

[2] In Latin the word *cathedra*, chair, was used to denote the bishop's throne. Hence the cathedral church was the church in which this throne was placed.

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I (858–867) and John VIII (872–882) it attained great power. In the X century, however, set in a period of decline and corruption, when the local factions of Rome made and unmade popes at their will. The great Church organization seemed ready to fall to pieces. So great had been the power built up by the earlier popes, however, that it safely carried the papacy through even this depth of degradation until, at the very end of our period, the German kings began to reform and rebuild the power destined at last to overwhelm them.

Meanwhile the office of bishop had been undergoing modification. The feudal system was so deeply rooted in the manners and customs of the times that the Church organization could hardly fail to be effected by it. Hence, as early as the time of Charlemagne, we find bishops actually invested with the functions of count, and, as the feudal system developed, such cases became so frequent as to be, in many parts of Europe, the rule.[1] Thus the bishop became a vassal of the ruler of the country and a lord over the vassals who inhabited his land; he became a baron even more than a churchman. He led his vassals to war, and was apt to be much more concerned with the temporal politics of his county than with the welfare of his see.

The number of clergy in the cathedral churches had long been considerable, and as time went on these lesser clergy banded together into a party distinct from, and often hostile to, the bishop. This party was known as the chapter. It also was a feudal personage, and possessed lands and vassals. Though ordinarily the chapter and the bishop enjoyed separate endowments (which were commonly rich ones), still conflicts over some question of privilege or revenue were frequent. The organization of the chapter in later years came to take on a semi-monastic character. This "regularization" seems to have been introduced by Chrodegang, bishop of Metz, and later to have been extended throughout the Empire by an edict of Louis the Pious (817). By this edict the canons (as the members of the chapter were called) were organized into a sort of order

[1] In much of what follows I am indebted to Ephraim Emerton, *Medieval Europe* (814–1300), Boston, Ginn & Co., 1901. 12vo. Chapter XVI of this book contains an account of the medieval church that for clearness and conciseness could hardly be surpassed.

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with a rule resembling that of St. Benedict as closely as was possible without too great interference with their secular functions.

These "canons regular" came to be distinctly a great feudal power in the state. More and more the chapters freed themselves from the control of the bishop, and even came to seek alliance with powers hostile to him. To such lengths did this estrangement extend, that in France the chapters were at times entirely exempt from episcopal jurisdiction, and able on their own authority to call councils trying clerical cases, and even exercise the right of excommunication.[1]

The canons were of several grades, following the organization of the parish clergy, although the mere fact of membership in the chapter ordinarily overshadowed their parochial rank. The unit of the parish clergy was the priest. At least one priest was placed in charge of each parish, and, of course, there were many parishes (each usually with a single church) in every diocese. These priests were appointed by the lord, whether lay or clerical, to whom the land on which the church stood happened to belong, although once appointed they were under the control of the bishop. In the XI century, as a consequence of the Cluniac reform, the parish churches were often put in the charge of monasteries, which appointed as priest one of their own members. This, again, was to the decided detriment of the bishop's power.

The arch-presbyter and the arch-deacon stood between the bishop and the parish priest. The former was scarcely more than the head parish priest; the latter was a sort of general overseer who occasionally was able to acquire sufficient power to threaten even the authority of the bishop. He was commonly the most important member of the cathedral chapter.

As these officers stood somewhat indeterminately between bishop and priest, the archbishops stood between pope and bishop. The earliest archbishoprics — those of Mainz, Köln, Trier, and Salzburg — were established by Charlemagne. In later times many more were added. Much dignity but little real additional power seems to have accrued to the holder of

[1] Emerton, *op. cit.*, p. 550.

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the metropolitan sees, as the archepiscopal dioceses were called. Efforts were made, it is true, to extend the powers of the archbishops over the neighboring bishoprics; but in this direction the bishops seem to have maintained their authority against encroachments. Where an archbishopric did attain great influence, it seems to have been rather from political considerations than from anything in the nature of the office itself, — as, for example, Canterbury in England, Reims in France, and Mainz, Trier, and Köln in Germany.[1]

Such, in outline, was the secular hierarchy of the Church. From a political point of view the organization was superb, though in the continual strife of its warring members, its wealth, its corruption, its simony, and its immorality, it contained elements of weakness. As the X century drew to a close, these elements obtained the mastery, destroying at once both the spiritual and temporal prestige of the clergy. The dignity of the Christian religion was restored only by the drastic measures of the Cluniac reform of the XI century.

Side by side with the secular clergy had grown up the regular clergy — *i.e.*, the monastic orders. Of undoubted Oriental origin, monasticism did not reach the West until the beginning of the V century, when it appeared sporadically in Provence and the far-off regions of Ireland and Scotland. In the VI century St. Benedict made the institution popular throughout the West. In the famous monastery of Monte Casino he gathered about him a body of disciples upon whom he imposed the Benedictine rule of poverty, chastity, and obedience. Within the next hundred years the Benedictine order had taken root throughout Western Europe, including nunneries as well as monasteries among its establishments. The monks speedily attained great prestige, especially in the eyes of laymen, for corrupt as monasticism often became, it seems seldom to have fallen to such depths as did the secular clergy. Furthermore, the spectacular renunciations of the monk made a great appeal to the multitude. The power of the bishops was seriously impaired by the new institution, and finally the episcopacy found in the monasteries its most formidable enemies. But the discovery was

[1] Emerton, *op. cit.*, p. 554.

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made too late. The monasteries were already too firmly established in lands and wealth, too heavily barricaded behind papal exemptions from episcopal jurisdiction, too staunchly allied with the great episcopal enemies, pope and king, to be dislodged.

Almost from the first, the monasteries became extremely wealthy. The constant recipients of bequests and gifts, what once was grasped by the "dead hand" was never released. The industry of the monks turned lands often at first uncleared and desert into fertile tracts. Special privileges and exemptions often freed the monasteries from all burdens and restraints imposed by bishop or king, and made them, in fact, almost like independent little states. They were feudal personages and rented their land to vassals the same as any other lord. As early as the time of Charlemagne it was not unusual for an abbot to have from twenty to forty thousand vassals living on the lands of his monastery, and so numerous did the monastic establishments become, that it is estimated that one-third of the total land of all Europe was in their hands.

This power of the monasteries was a menace to the authority of the bishop. The two became natural enemies and it is only in exceptional cases throughout the Middle Ages that, whenever any dispute arose, these two powers were not to be found arrayed on opposite sides. The bishops naturally allied themselves with the feudal lords; the monasteries usually supported the papacy.

The great worldly power of the monastery necessitated a somewhat complicated internal organization. At its head stood the abbot, elected by the monks, but confirmed both by the secular head of the territory and the bishop of the diocese. This lucrative office was naturally in great demand, and before the Cluniac reform was not infrequently obtained by a layman — some great feudal lord who found here a great source of revenue. Immediately under the abbot was the prior — a sort of vice-abbot. When, as often happened, the main monastery founded a branch order somewhere on its territory, this branch was commonly put in charge of the prior, and was called a priory. Besides this, there were, on the broad lands of the monastery,

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Ill. 87. — Plan of S. Gall

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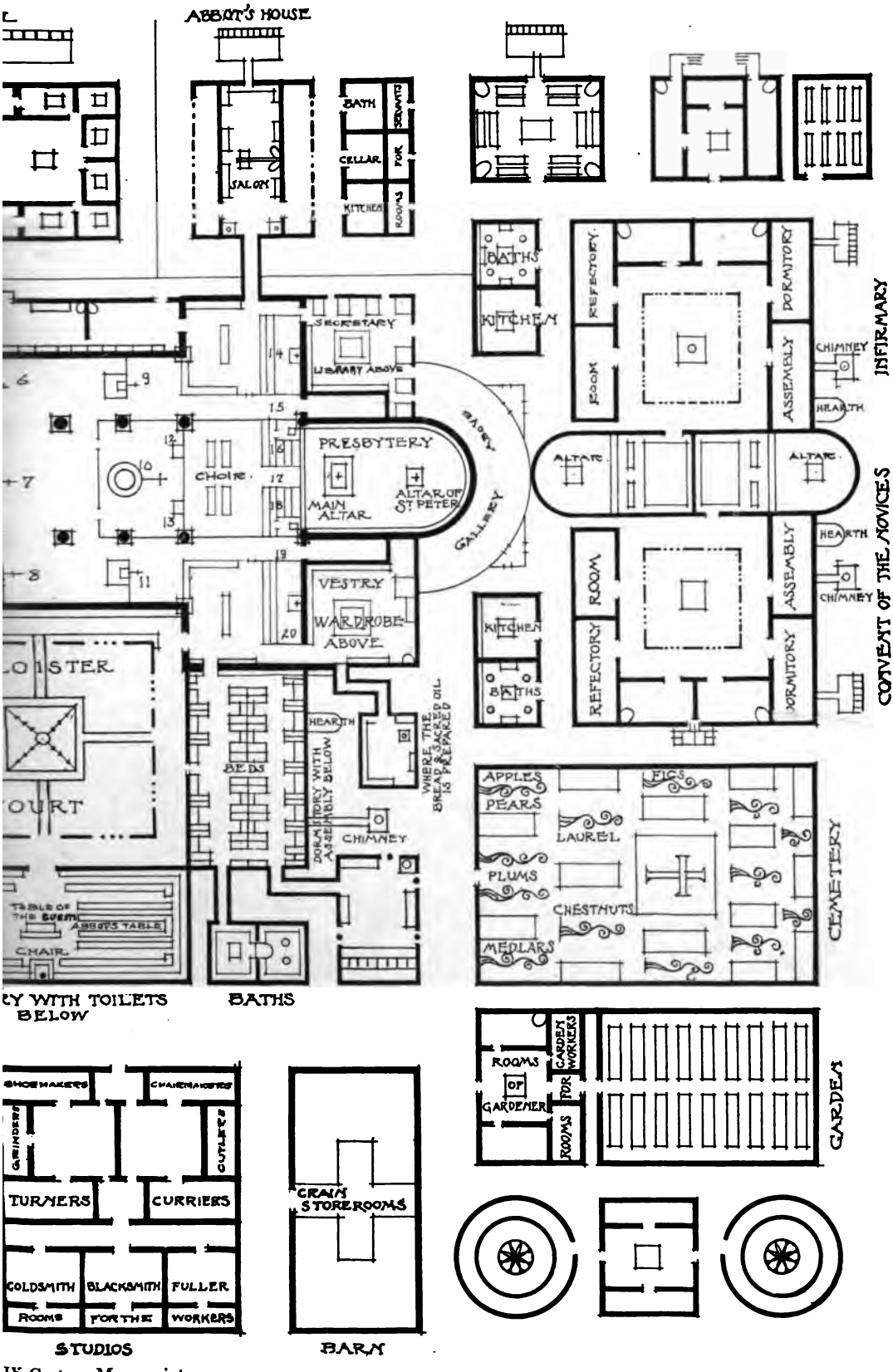

IX Century Manuscript

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parish churches. These originally were in the hands of the secular clergy, but in the course of time the monks were so far exempted from the strict rule that they might perform the function of parish priest.

The main body of occupants of a typical monastery consisted of several classes of persons. First came the monks in full title, who formed the chapter. The second class was the novices. Thirdly, the *fratres conversi*, or lay brothers, subject only in part to the rule, were supported by the monastery in return for the performance of numerous secular functions. Lastly, "the *oblati* were either laymen who maintained a certain relation to the monastery by putting money into it as an investment, or they were children placed by their parents in charge of the monks, and then later claimed as bound by the vows of the parent." [1]

In the monasteries centered all the learning of the time. Here were the only libraries, here the only schools. Whatever of ancient culture remained alive was due solely to the monks. Each monastery was also commonly provided with a hospital where the sick of the neighborhood were tended.

All these varied functions necessitated an elaborate group of edifices for the abbey, as the monastery buildings are called. (Ill. 87). First of all, there must be the church, (the *abbey* church should always be carefully distinguished from the *cathedral* church); then there must be one or more dormitories where the monks might sleep; the refectory, where they might eat; kitchens and cellars; a room for receiving distinguished guests and another for lodging them; a hospital for the sick; a library, a schoolhouse, a room for distributing alms; and often many other apartments. The number and size of all these accessories varied with the importance of the monastery. But one thing was always felt to be essential, and that was the cloister — a covered passage-way where the monks might walk back and forth, free from all disturbances of the outside world. The cloister was undoubtedly derived from the Early Christian atrium, whose form, indeed, it modifies insensibly. In Syria we have already seen the cloister placed beside, instead of in front of, the church, doubtless in order

[1] Emerton, *op. cit.*, 575.

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that it might be reserved more exclusively for the clergy. During the Carolingian era it is placed sometimes before,[1] and sometimes beside[2] the church. Later it was always at the side, and usually to the southward.

The cloister formed the center of the medieval abbey. It was ordinarily nearly square in plan; on one side lay the abbey church; about the other three sides were grouped the various monastic buildings, or as many of them as possible. These solitary and retired courts were destined to give rise to some of the most charming achievements of Gothic art. We are fortunate in having preserved to us a contemporary plan of the IX century monastery of S. Gallo in Switzerland. This plan (reproduced in modern conventions in Ill. 87) preserves with indisputable authenticity the exact dispositions of a great Carolingian abbey.

From this brief sketch of the growth of the Church it will be evident that entirely new needs had been proposed for architecture to meet. With the rapid increase in the relative number of the clergy the old semicircular apse had become ridiculously inadequate. In the monasteries there was often practically no congregation, while the clergy may at times have numbered in the hundreds. To pack all these officials in the small apse while the great body of the church was left absolutely empty was clearly an illogical arrangement. At Rome, where the basilica form was retained, the difficulty was met by erecting a *schola cantorum* in the nave. This expedient, however, was at best only a makeshift.

Furthermore, as the ritual became more elaborate,[3] the old basilica type was felt to be too simple and open, too flooded with light, too little mysterious to allow the solemn ceremonial to produce its due effect. The altar placed under the triumphal arch was in too plain sight, too near the people. Familiarity, even with the most sacred things, tends to breed contempt, and

[1] *E. g.*, Lorsch, etc. [2] *E. g.*, S. Gallo, etc.

[3] This is controverted ground. But while it may safely be maintained that all the germs of the Latin ritual are to be found in the service at a very early date, it can hardly be denied that the actual performance of the mass became more mysterious and impressive as time went on. As far as external effect goes, the mass in the time of the primitive Christians would seem as simple as the modern Protestant service compared with the XIII century ritual.

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it was better for the cause of true religion that the altar should be somewhat more removed from the gaze of the profane. The basilica type was also ill adapted for the ritual in that a certain awkwardness was experienced, especially in churches without transepts, when the great procession of the mass turned from the side aisles into the apse, and vice versa.

One other religious development influenced the type of church building, and that was the rapid accumulation of relics during the Middle Ages. The Early Christians had been accustomed to build their basilicas over the tomb of some martyr, and this tomb was preserved in the confessio. The tendency to worship saints and their relics thus begun, increased enormously during the Dark Ages until it became little less than a mania. Relics were gathered everywhere and often at the greatest expense. They became a commercial commodity of great value — the most prized plunder of a captured city, the most carefully guarded of all treasures. Now throughout the Middle Ages the production of relics was amazingly prolific. Not only was there an extraordinarily large number of genuine saints whose remains were carefully preserved after death, but the supply seems to have been largely augmented by the profitable practice of manufacturing fraudulent relics. Thus it came about that all the principal churches of Europe became veritable museums where were gathered vast collections of the miscellaneous members, more or less genuine, of defunct worthies. The housing of all these relics became a serious problem. The old confessio was totally inadequate for the purpose; besides, the growing reverence for the relics demanded a separate altar for each saint of whom the church possessed considerable parts.[1] The question of where to find space for these altars became puzzling. In the old Christian basilica there was none available. In monasteries, such as S. Gallo, where there was no congregation to reckon with, the nave was utilized for this purpose; but in cathedrals or large parish churches the problem was difficult.

The Early Christian basilica had been excellently adapted

[1] Parallel to the growth of the passion for relics, the worship of saints had been rapidly increasing. Extra altars were required to satisfy the needs of this cult of the saints as well as to serve as receptacles for their relics.

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for the simple service of the primitive Christians. Only in respect to the wooden roof, subject to destruction by fire, did the basilica fairly lie open to objection from a practical standpoint. But the Church had developed so that its gorgeous ceremonies had outgrown the simple basilica form. The new needs required the old basilica type to be altered so as to afford restricted light, a larger choir, easier passage to the side aisles from the apse — together with a fireproof roof.

A glance at the monuments listed on page 170 will make it evident that Carolingian architecture made only sporadic and inconsistent efforts to meet these difficulties. Circular churches enjoyed an unparalleled popularity in this period, and the circular church as designed in the West was far less suited to the needs of the ritual than the basilica. The development of the round church into a truly suitable and monumental form, such as the Byzantine architects had attained at Hagia Sophia, was unknown to Carolingian art, only the faulty steps made in that direction at S. Vitale, Ravenna, being available as models for the Occidental builders. Even these advances, however, the architects of Aachen failed to adopt. At their hands the round church fell back into the old Early Christian form, a form totally unsuited to the church service.

Nevertheless, at Aachen two structural innovations were introduced, one of which was of great importance. As may be seen by a glance at the section (Ill. 86), the triforium gallery is covered with barrel-vaults, transverse in the sense of the gallery, and thus forming ingenious and effective buttresses to the thrust of the dome. The second innovation — and this is the one to which I especially desire to call attention — is the vaulting of the aisles. The vaulting of circular aisles is a matter of difficulty. The Early Christians had usually gotten around the problem, as at Sta. Costanza (Ill. 44), by building a barrel vault springing from above the crown of the arches of the main arcade. This expedient was only partly successful. It made an unnaturally lofty as well as a very dark vault over the aisle, and it necessitated an awkward blank space on the nave wall between the crowns of the arches of the main arcades and the gallery or clearstory. At Aachen the problem was solved in the

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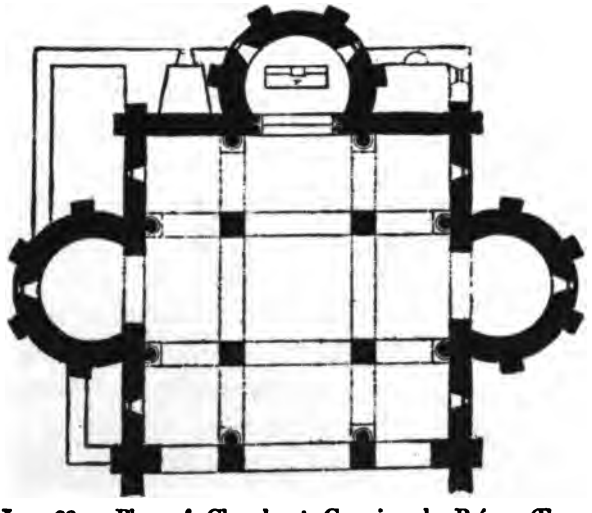
very clever way shown in the plan (Ill. 85). The nave was made octagonal, the exterior wall sixteen-sided, a device by means of which the aisle was divided into alternately square and triangular compartments easily covered with groined vaults.

Aachen was extensively copied throughout the North, though the copies were often very free. The most interesting of these variations is the type of church represented by Germigny-les-Prés (Ill. 88, 89). Here the octagonal nave of Aachen has be-



Ill. 88. — Plan of Church at Germigny-les-Prés. (From Arch. de la Com. des Mon. Hist.)

come a square surmounted by a construction that suggests a central tower rather than a dome. The aisle also has been made square, and three (possibly four) apses have been added. It is curious that a plan almost exactly similar is found way off in Italy, in the church of S. Satiro, Milan.

Another type of circular church derived according to contemporary authors from Aachen, is found in such buildings as the Alte Thurm of Mettlach (Ill. 91) or Heilige Maria auf dem Berge of Würzburg. Monuments of this class date almost exclusively from the X century. The distinguishing characteristic is the fact that the side aisle is suppressed, the building thus reverting to the form of the original Roman type from

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which all Christian circular churches had probably been ultimately derived.

Such are the three types of Carolingian circular edifices of which we have authentic examples. Although it is not improbable that round churches were erected in Italy in the VII and VIII centuries, the extant monuments of this type are found for the most part in the North, and all seem later in date than the chapel at Aachen. The far-reaching influence of this monument is not open to question. The school it formed, however, was of an artificial and exotic character, making little effort to meet the practical requirements of the Church. The structural innovations introduced at Aachen, important though they were, lay in precisely those directions where we should not expect them.

Most of the circular edifices in the North, especially those erected towards the close of the Carolingian epoch, were churches and not baptisteries. In the Early Christian period, the baptistery had always been a separate building, and was regularly of the round type. Baptism was in those times administered by immersion, and the rite might be performed only by a bishop. After the VI century, the baptism of infants and baptism by infusion came to prevail. The rite might be administered by a simple priest with water blessed by the bishop in his cathedral. By the end of the X century the practice had become the rule north of the Alps. Originally, only cathedrals had a baptistery; now every parish church had a baptismal fount.[1] Hence in the North the custom of building a separate edifice for the baptistery came to an end, and one of the main uses for the circular church passed away. In Italy, however, the baptistery still continued in use.

The basilican plan was in every way better adapted to the practical needs of the Carolingian church, although, strangely enough, the extant basilican buildings of the era are usually even less monumental and less pretending than the domed edifices. The Carolingian basilica, generally speaking, was a small barn-like structure, quite unadorned and inexpressibly bare and dreary. And yet in the design of these basilicas important advances were made.

[1] Enlart, 191.

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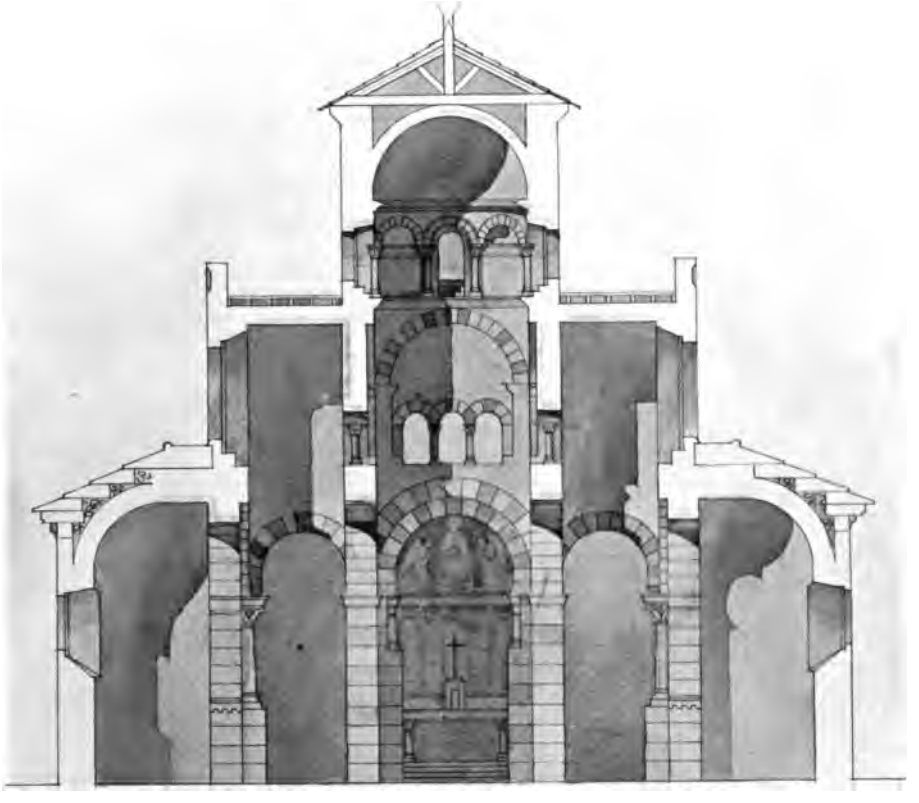

Ill. 89. — Section of Germigny-les-Prés

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Of these innovations probably the first was the addition of chapels to supply extra storage room for relics. We have already seen that in the East it had become customary to terminate the side aisles of the basilica in the chapels of the prothesis and apodosis flanking the main apse. These chapels in Syria and Egypt later became square, but the original form was semicircular. The plans of such Eastern churches doubtless suggested to the Western builders the idea of adding to the basilica chapels similiar to those of the prothesis and apodosis, which might serve to contain altars with relics of the saints. These were introduced into most (though not all) Western basilicas at a very early time in our period, and continued in general use throughout the Carolingian era[1]. (Ill. 94.)

The disposition of these apsidal chapels was modified in the so-called "T-formed" basilicas, so many of which were built along the upper Rhine in the time of Charlemagne. Basilicas of this type were characterized by widely spreading transepts. Accordingly, in order to obtain a more symmetrical plan, the secondary apses were separated from the main apse and placed in the middle of the transept, rather than on the axis of the side aisle. (Ill. 95.) In this position they came to be regarded as forming a necessary adjunct to the transept, and, in fact, the tradition that transepts should be supplied with such absidioles became so firmly rooted in tradition that from this time until the end of the Gothic period few churches were erected without some trace of this feature. The single aisles placed on the east side of the transepts of English Gothic cathedrals

[1] There are several texts bearing on this question of the triple apse. I quote three of the most illuminative: Quippe altare domnicum (ut nunc est) quatuor ex partibus tabulis argentiis inclusit, nec minus altare ad crucem atque S. Johannis B. sanctæ quoque Mariæ virginis, præterea altare S. Petri in ecclesia triplice mirifice perornavit. — *Chron. Laurisham.* a. 805. Disposuit fabricavitque triplicem in una conclusione basilicam, cuius membrum medium in honore S. Mariæ virginis cultu eminentiore construxit, ex uno latere domini Johannis, ex alio S. Martini subiecit. — *Vita S. Cesarii.* The final passage is taken from the description of the basilica at Nantes by Venantius Fortunatus (*Carm.* III, 7): —

Vertice sublimi patet aulæ forma triformis.
* * * * * * * *
Dextra pars templi meritis præfulget Helari
Corpore Martino consociante gradum.
* * * * * * * *
Altera Ferreoli pars est. — Cit. Schlosser, 48.

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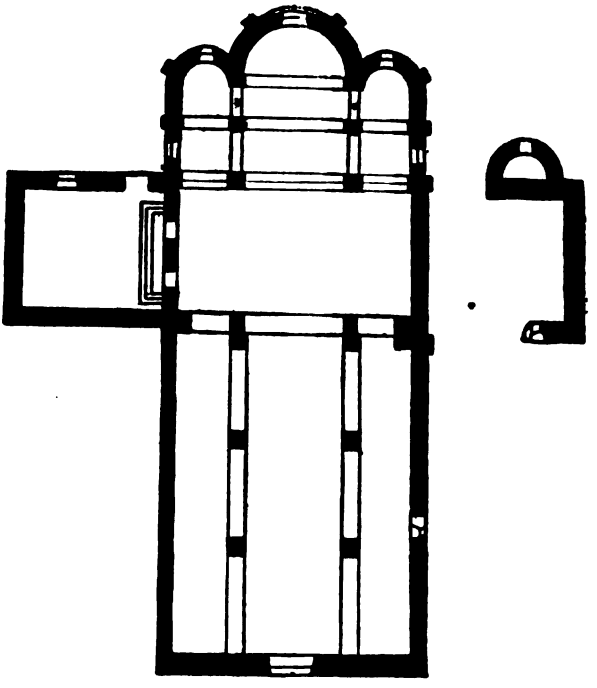
are to be explained as a reminiscence of this tradition. An amusing instance of how necessary transeptal absidioles came to be considered is afforded by the X century church of St. Généroux (Ill. 90). Here the older form of triple apse is retained; but as may be clearly seen in the ruined south transept, transeptal absidioles were also included in the plan, so that the same feature was, in effect, twice repeated.



Ill. 90. — Plan of St. Généroux. (From Arch. de la Com. des Mon. Hist.)

The triple apse and transeptal absidioles offered one solution to the problem of how to make room for relics and altars. A second alternative solution found by the Carolingians consisted of adding to the west end of the church a second apse opposite the main eastern apse. This, it will be remembered, had already been tried by the Early Christians of Africa, doubtless for a similar reason. One of the earliest and most famous instances of the double apse was in the monastery of S. Gallo, dating from before 820. (Ill. 87.) In certain instances this

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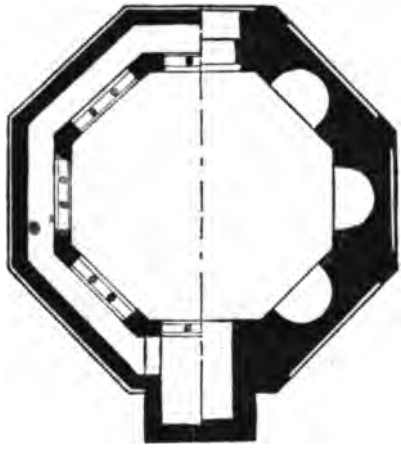
western apse occurs in connection with the triple eastern apse. Its use is largely confined to Germany, where, indeed, it became one of the most marked features of the rising national style.[1]

A third expedient for gaining space to house relics was the indefinite enlargement of the old Early Christian confessio or crypt, which was made to extend under the whole eastern part of the church. As in Early Christian churches, the crypt often continued to assume the form of a regular little basilica, with nave, side aisles, and apses. In the IX century in Germany,



Ill. 91. — Plan of Mettlach. (From Dehio)

but especially in Italy, it became usual to raise the choir somewhat above the rest of the church, in order to make more room for the crypt. As this arrangement was found to be of additional advantage, in that it strongly marked the division of choir and sanctuary, it was finally carried to such lengths in Lombardy that the choir was raised as much as ten or twelve feet above the nave. Indeed, these raised choirs with the crypt below, became one of the marked characteristics of the churches of that province (Ill. 92), and passed thence into the Lombard style of the XI century.

[1] This is the usual, and, it seems to me, the more probable explanation of the western apse. No less an authority than Cattaneo, however, asserts an entirely different origin and use. "Servivano contemporamente ai due distinti cori dell' abato e del priore che avvicendavano il canto dei salmi." Might not this custom have arisen *in consequence* of the introduction of the western apse? And how about cathedral or parish churches?

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A fourth and last device invented for the purpose of providing additional space for relics deserves especial mention, being as it is, one of the most important and fruitful architectural motives ever created. The side aisle was continued around the apse to form what is known as an ambulatory. Something similar to this had already been done in the Early Christian period in the basilica of S. Giovanni in Laterano at Rome, and at S. Gallo another early example seems to have existed. (Ill. 87.) But since the exact original dispositions in both of these instances are not altogether clear, it is left open to question whether they were really true ambulatories. At the end of the Carolingian period, however, there is no doubt that the feature had assumed definite form, for it occurs in two extant monuments of Italy[1], while the foundations of the X century church of St. Martin at Tours (Ill. 93) prove that a fully developed ambulatory was provided in this basilica. This idea of prolonging the aisles around the apse seems so simple and natural that it is perhaps unnecessary to seek for prototypes or precedents.[2] Along the wall of the extra space gained by the addition of the ambulatory were placed the altars with relics. Then niches came to be built in this outside wall to contain these altars; the niches were enlarged until they formed radiating chapels, in the Carolingian period always semicircular in plan (Ill. 93). This eastward termination of a church with ambulatory and radiating chapels is known as a chevet, and became one of the most characteristic and beautiful features of French Gothic cathedrals. It was not for Carolingian architecture to carry this lovely motive to its bloom; it merely suggested the possibilities that a later age seized upon, and developed to their full value. We have only two examples of the completely formed chevet with radiating chapels earlier than the year 1000. Both of these date from the X century, and both of them are situated in France, with whose style this motive was in after years so intimately associated. The one is the now buried foundations

[1] At Ivrea and in the church of Sto. Stefano, Verona, where the ambulatory is vaulted with the alternate rectangular and triangular groin vaults of Aachen.

[2] Dehio would derive the motive from half a circular building with aisles and niches. He points out that St. Martin of Tours — where he sees the origin of the ambulatory — is a building of tomb-like significance.

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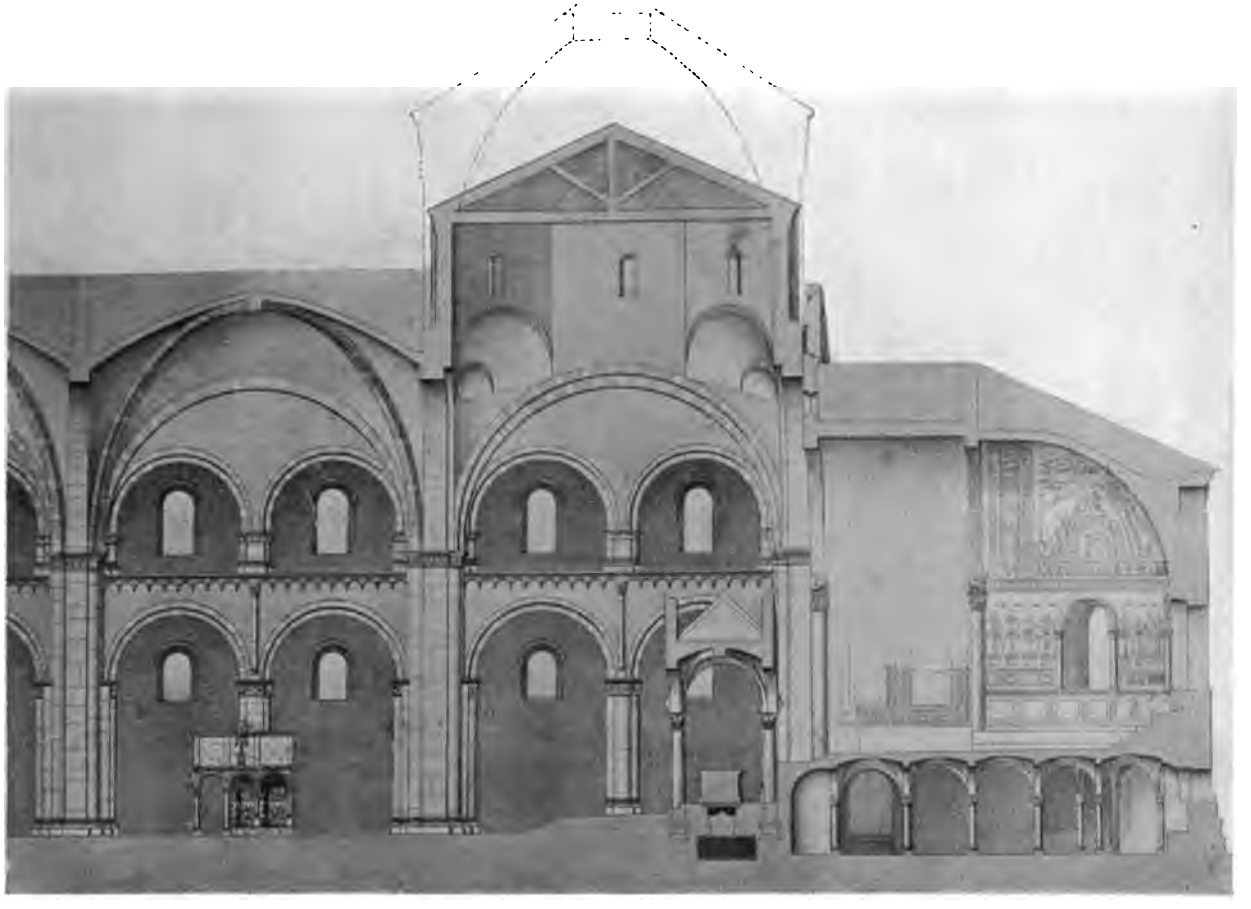

ILL. 92. — Longitudinal section of S. Ambrogio, Milan. (From Dartein)

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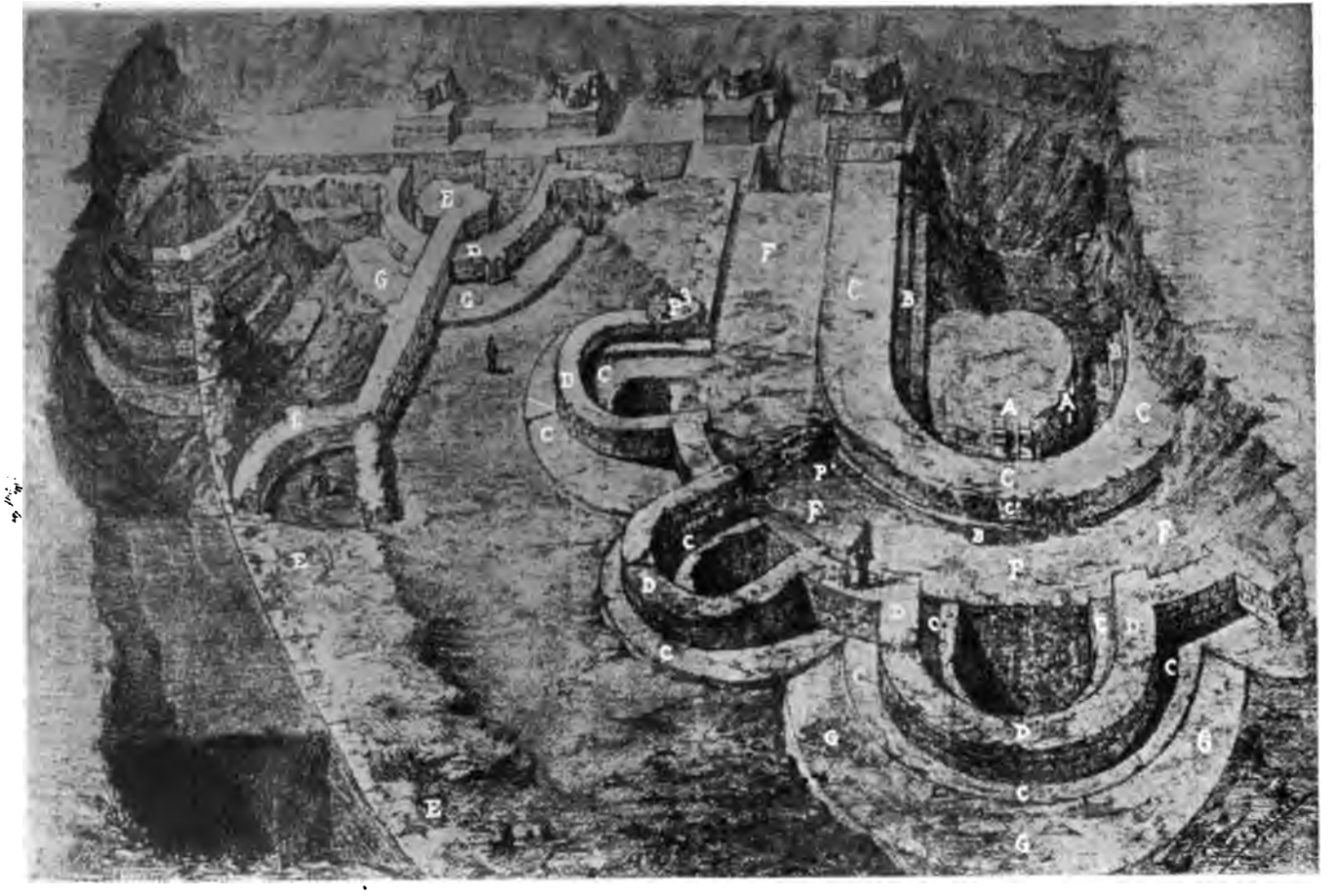

ILL. 93. – Foundations of St. Martin, Tours. (From Ratel)

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of St. Martin of Tours already mentioned; the other, evidently thence derived, the church of La Couture at Le Mans.

A further great advance of Carolingian architecture was the enlargement of the apse. The need of this was so crying, and the step to its accomplishment so obvious, we can only wonder it was taken so late and so hesitatingly as it was. We have seen that in the early Christian basilicas of Rome the overcrowding of the clergy in the apse had been relieved by screening off from the nave the schola cantorum for the use of the minor clergy. Now, in the IX century, when Carolingian architecture developed in Lombardy the features of the crypt and raised choir, the nave and sanctuary became separated by a sharp barrier, and the schola cantorum was consequently left stranded, as it were, way down in the nave and far separated from the apse and the main body of the clergy. It therefore became necessary to make the raised choir sufficiently large to accommodate all the priests. This was done by inserting a square compartment in front of the semicircle of the apse. (Ill. 90, 94.) The beginning thus having been made, the principle was capable of indefinite enlargement.[1] Henceforth the choir could be expanded to a size sufficient to accommodate any number of clergy. This idea, originating in Lombardy[2] and much employed there after the IX century, found its way later into Germany and France. In the Italian examples, when the motive is employed with the triple apse, the dividing walls between the three apses are prolonged to the end of the choir;[3] in France, — at least at St. Généroux (Ill. 90) — the three apses open into each other by arcades. This last was the form in which the motive, combined with that of the chevet, was to influence profoundly Gothic art. The prolonged choir and the ambulatory

[1] In the Byzantine and Early Christian monuments in the East and at Ravenna the apse had been often prolonged.

[2] S. Ambrogio of Milan is perhaps the earliest example, but the lengthened choir also occurred at S. Gallo (Ill. 87).

[3] Cattaneo offers an explanation of this fact, full of delicious humor. "Si fatto," he says, "prolungamento cominciò a comparire nei secoli vicini al mille, specialmente in quelle chiese che servivano ai monaci, i quali, essendo usati di passare buona parte del dì e della notte entre la chiesa salmodiando, avianno sentito finalmente il bisogno di un recinto più riparato dall' aria e meno accessibile agli sguardi curiosi del popolo, che non fossero gli aperti cancelli delle vecchie basiliche. E quest' invenzione, forse dei claustrali, fu poi trovata tanto opportuna, che dopo il mille s'allargò anche alle chiese ove officiava il clero secolare."

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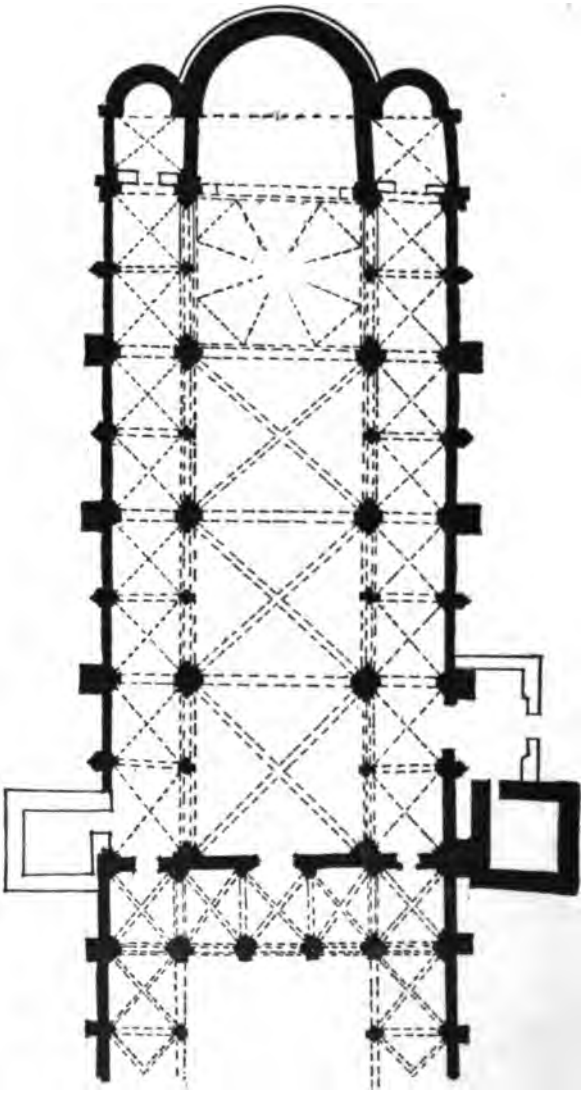
never seem to have been employed together in Carolingian times.

In one other direction did Carolingian architecture antici-



Ill. 94. — Plan of S. Ambrogio, Milan. (By F. J. Walls)

pate important later developments. In speaking of Syrian architecture, we have already mentioned the difficulty of treating the west façade of a basilica, and have pointed out how

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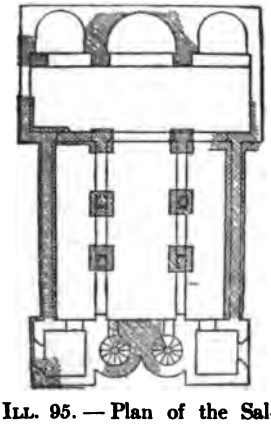
that problem had been solved in certain Syrian churches like Kalb Lauzeh (Ill. 57), by flanking the central gable with two towers. Now in Carolingian times the atrium, which, to a certain extent, had masked the awkwardness of the façade in the Early Christian basilicas, had passed out of use, and the architects found themselves face to face with this problem. They solved it precisely as the Syrians had done, by erecting two square towers to flank the western gable. This idea was applied for the first time[1] (as far as is known) in certain of the "T-formed" basilicas[2] of the Rhine valley — the Salvatorskirche at Frankfurt (Ill. 95) and possibly the basilica at Lorsch. There



ILL. 95. — Plan of the Salvatorskirche, Frankfurt. (From Wolff)

is nothing to show Syrian influence in these cases. This motive, which became one of the most brilliant and distinctive features of the Norman and Gothic styles, was undoubtedly merely re-invented by the Western builders.

This idea of adding towers to churches was much developed. The later Carolingian buildings of Germany were sometimes provided with as many as four towers, all attached to the building, and no longer standing apart from it,[3] in the fashion of an

[1] The VIII century church of St. Denis also had twin western towers. See Vol II, p 194.

[2] The design of all Carolingian façades was doubtless influenced by the fact that the use of galleries was very general during the Carolingian period.

[3] At S. Gallo, as may be seen from the plan (Ill. 87), there were two detached circular bell-towers.

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Italian campanile. The buildings of this school were regularly supplied with a western apse, a feature which deprived the western towers of much of their significance. Possibly for this reason the towers were usually made round instead of square, or this peculiarity may have been a survival of the original form of bell tower, which, it has been seen, was probably round. At all events, in Germany, even in the Carolingian period, the round attached towers tended to degenerate into turrets of an almost purely decorative significance. In Italy, on the other hand, the square detached campaniles continued as ever to be the rule. They were, however, occasionally attached to the building. Just over the border line of the year 1000 we shall find them frequently doubled and flanking the eastern apse in Lombardy;[1] and one of the towers which flank the façade of S. Ambrogio, Milan, is much earlier than that year.

A certain number of minor changes of construction wrought by the Carolingian builders deserve, at least, passing mention. Of these, splayed windows are the most important. We have spoken above of the necessity of restricting light in churches. The poor technique of the Carolingian builders brought about this restriction without intending it. The clumsy walls of rubble came to have immense thickness, and the construction was so loose that a large arch presented serious difficulties to unskilled builders. Hence the size of the windows came to be reduced to such an extent that the light became too dim. To avoid this difficulty recourse was had to double *splaying;* that is, making the size of the window smaller in the center of the wall than at the two outside edges. In a wall of considerable thickness this procedure largely increased the amount of light admitted, by a principle which will be understood by a glance at the diagram (Ill. 96, Fig. 1). Here the heavy lines represent a splayed window in plan, the dotted lines one with jambs of rectangular

[1] *E. g.* in the cathedral at Ivrea, and at S. Abondio at Como. Strangely enough, this feature reappears in the North, in the church of St. Germain-des-Prés, Paris. That bell towers were attached to churches before the IX century we learn from a text referring to the church of St. Denis, built about 775, — "Basilicae fabrica completa, impositaque turri, in qua signa, *ut moris est,* penderent . . ." — "the building of the basilica was finished and the tower placed upon it, and in this, as is the custom, they hung bells." — *Mirac. S. Dionysii* c. 15, cit. Schlosser.

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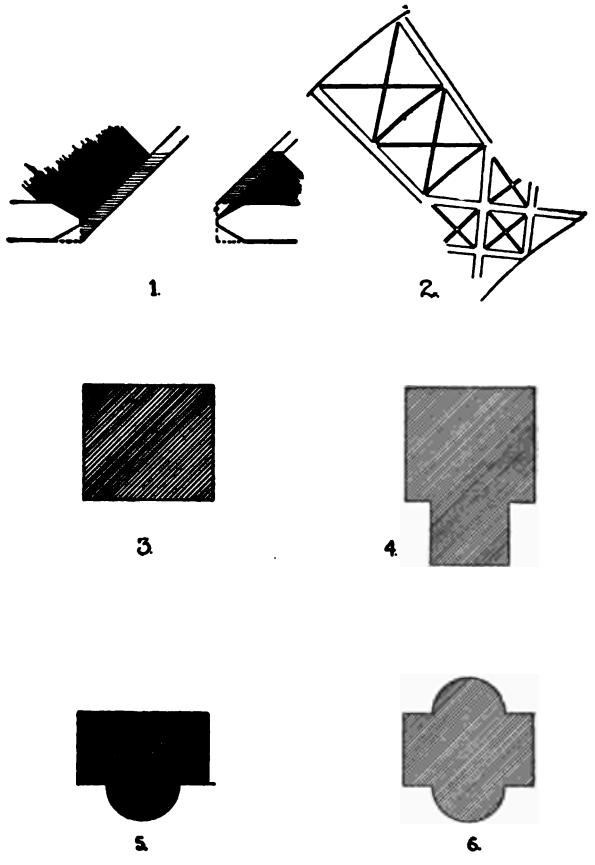
section. The light is imagined as coming at an angle; the heavy shading represents the shadow cast by the splayed window, the light shading plus the heavy, that cast by the window with rectangular jambs; that is, the difference in the amount of light admitted is just equal to the light shading.



Ill. 96. — Diagram. Piers, Ornaments, and Windows

Windows were also often single splayed in Carolingian times, — that is, only one, instead of both edges were cut off. The size of windows shows much variation, as does also the thickness of the wall and the quality of masonry. In fact here, as everywhere in the period, we meet with that baffling divergence of character which makes any general statement dangerous.

If Carolingian construction shows a lack of definite tenden-

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cies, the ornament at first glance seems well-nigh chaotic. The one thing that stands out clearly amidst all the disorder is the fact of Byzantine influence. The groundwork of Carolingian, and indeed of all medieval, ornament is unmistakably Byzantine. To this basic force were added two other elements — the Germanic and the Latin. These three always tend to separate, not according to any distinctions of local schools, or of chronology, but in a fashion quite arbitrary. Only in the IX century do they show any tendency to blend into a common unit, and even then only to a limited extent. Byzantine ornament underwent decided changes at the unskilled hands of the Carolingian builders. It became crude, almost childish by unskilful execution; its motives were modified and made to take on a wild, uncouth, barbaric character, as is shown by the reproductions (Ill. 82, 83, 84) of some of the few authentic examples of original Carolingian carving that have come down to us. The Byzantine feeling in it all is unmistakable; indeed, many of the old Byzantine motives are yet clearly recognizable, such as the rinceau, in its Eastern form, and the interlace. Byzantine, above all, is the stringy character — that love of the wandering, indefinite, and often awkward, line, just as a line, and the corresponding tendency to turn everything — leaves, stems, bands, ribbons, even veins — into mere lines.

Two distinctly Byzantine motives that came to acquire great prominence in the exterior adornment of buildings of the late Carolingian and subsequent periods, were the pilaster strip and arched corbel-table (Ill. 92, 97), ornaments used ordinarily in conjunction with each other. These motives are not found in the Byzantine buildings of Constantinople, but were peculiar to that group of Ravennese churches of which we have so often spoken. Originating probably in decoration by means of blind arcades (Ill. 42), these motives were fully developed at Ravenna in the VI century. From the VII until the IX they seem not to have been used. After that date, however, they were revived in Italy, being copied, doubtless, direct from Ravenna, and soon became the universal and characteristic decoration of all Lombard churches. Unlike other Byzantine decorations,

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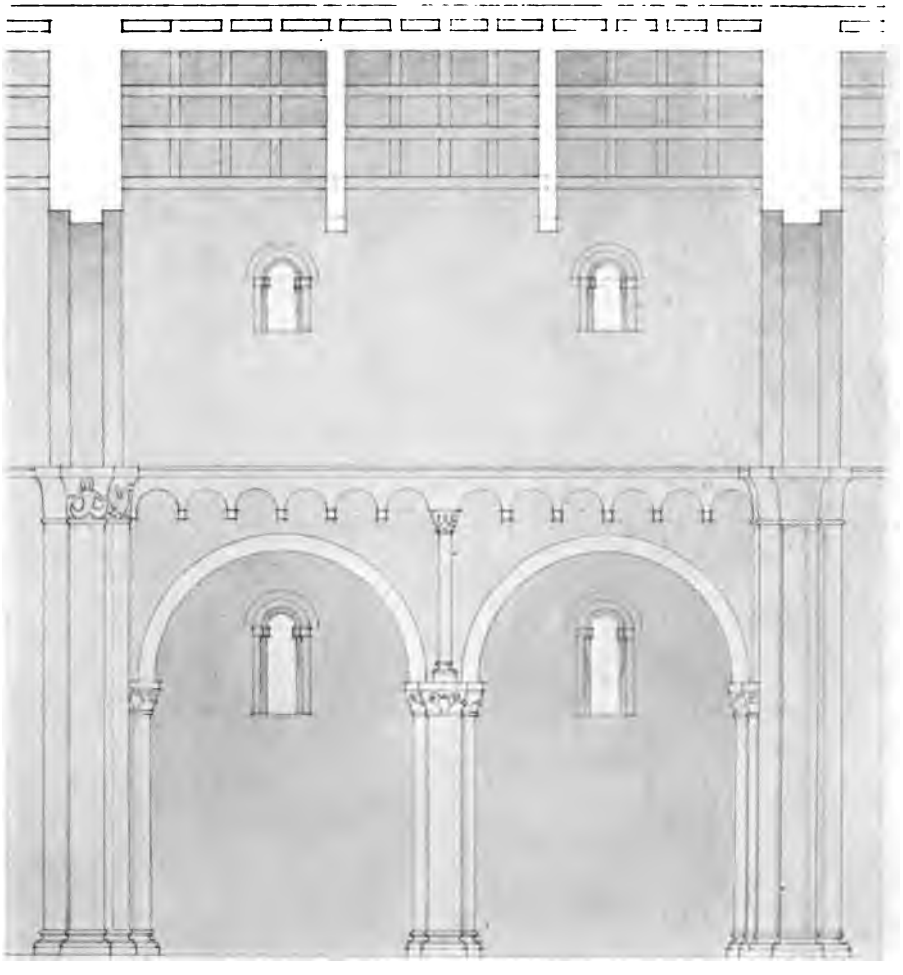

ILL. 97. — Section of S. Celso, Milan

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these remained for a time primarily (though not exclusively) Italian. It was only in a later age that they crossed the Alps, to become the common heritage of European architecture of the XI and XII centuries.

Of the Germanic or new elements in Carolingian decoration, the most important was the system of triangular decoration. This element shows itself in many different forms at various times and places — at the Baptistery of St. Jean, Poitiers (Ill. 81), at St. Front, Périgueux, at Lorsch (Ill. 98), at St. Généroux (Ill. 99), and at the Basse Œuvre of Beauvais (Ill. 96, Fig. 2), etc. A series of equilateral triangles, forming zigzag lines, constitutes its basis. These triangles are sometimes part of the masonry, being stones of different colors inlaid (Ill. 98); sometimes they are triangular arches resting on pilasters and engaged in the wall (Ill. 98); or, again, combined with Byzantine influence, they form a sort of triangular interlacing ornament.[1] This motive seems to be distinctly non-Italian, but occurs sporadically throughout the North.

Another ornament which must be credited to Germanic origins is the crocket (Ill. 82). It never became very common, and was always confined to Italy. It is, however, so similar to the Gothic crocket, that the temptation to trace a connection between the two is strong.

Towards the very end of the period, there appeared in France still another distinctly new motive, or rather a combination of two motives. The billet moulding, — which may be best understood from the illustration (Ill. 99) — began its long and eventful career. In certain instances, string-courses, ornamented with this moulding, were arched up over windows or other openings (Ill. 99). This usage, it will be remembered, had formerly been employed in Syria, and carried almost to extravagance. Thus we have another instance of Syrian anticipation of Western discoveries. Europeans never carried the motive to such lengths as had the Syrians; as a mere arched string-course, however, we shall find it of great importance in Norman decoration.

Still one other innovation remains to be noted. That is the custom of constructing windows of coupled arches separated

[1] As in the archivolt of the window in the façade of the Basse Œuvre (Ill. 96, Fig. 2).

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by a column. This idea is specially characteristic of Italian campaniles, where it doubtless originated. It is a motive of great charm and one of the few really artistic things accomplished by Carolingian architecture.[1]

The great Latin contribution to Carolingian architecture was the basilican plan. In pure ornament Rome contributed little, save indirectly by way of Byzantium. Only in capitals was the classical tradition preserved, though in certain of these, as in the Ionic and Composite orders at Lorsch (Ill. 98), the Roman forms were reproduced with surprising exactness. In other ornament, classical tradition sometimes lay in the background, where it can be vaguely felt, although it is impossible to detect any specifically Latin form. Such domination of the classic feeling as we find after the year 1000 in the schools of Provence or Pisa was, however, totally unknown to the Carolingian era, and, unless we suppose that all the classical Carolingian monuments have perished without leaving a trace of their existence, these classical Romanesque schools must be explained by supposing a revival of study of the antique monuments in the XI century.

The Carolingian period marked the decline and death of the art of mosaic, that decoration on which the Early Christian and Byzantine buildings had depended so largely for their effect. Charlemagne, it is true, decorated the dome of Aachen with a great mosaic picture, and about the same time others were made for the church of Germigny-les-Prés. But the art was already in its decline, and after the IX century mosaics ceased to be executed.

Such, then, are some of the more prominent characteristics of Carolingian architecture — that strange, disordered, contradictory art, whose bleak winter of five centuries binds together the autumn of ancient art, and the sunny springtime of Gothic.

[1] Coupled arches had already been in use in Byzantine architecture, as in the triforium of S. Vitale, where even tripled arches occur. Indeed, the motive may almost be dated back to the Pantheon, where the niches are separated from the rotunda by columns bearing an architrave. The triforium of S. Vitale was reproduced at Aachen, whence the motive spread to Germigny-les-Prés, Montier-en-Der, and, in fact, to all northern Europe. The Gothic triforium is thence logically derived. The Carolingians, I believe, were the first to apply the idea to windows.

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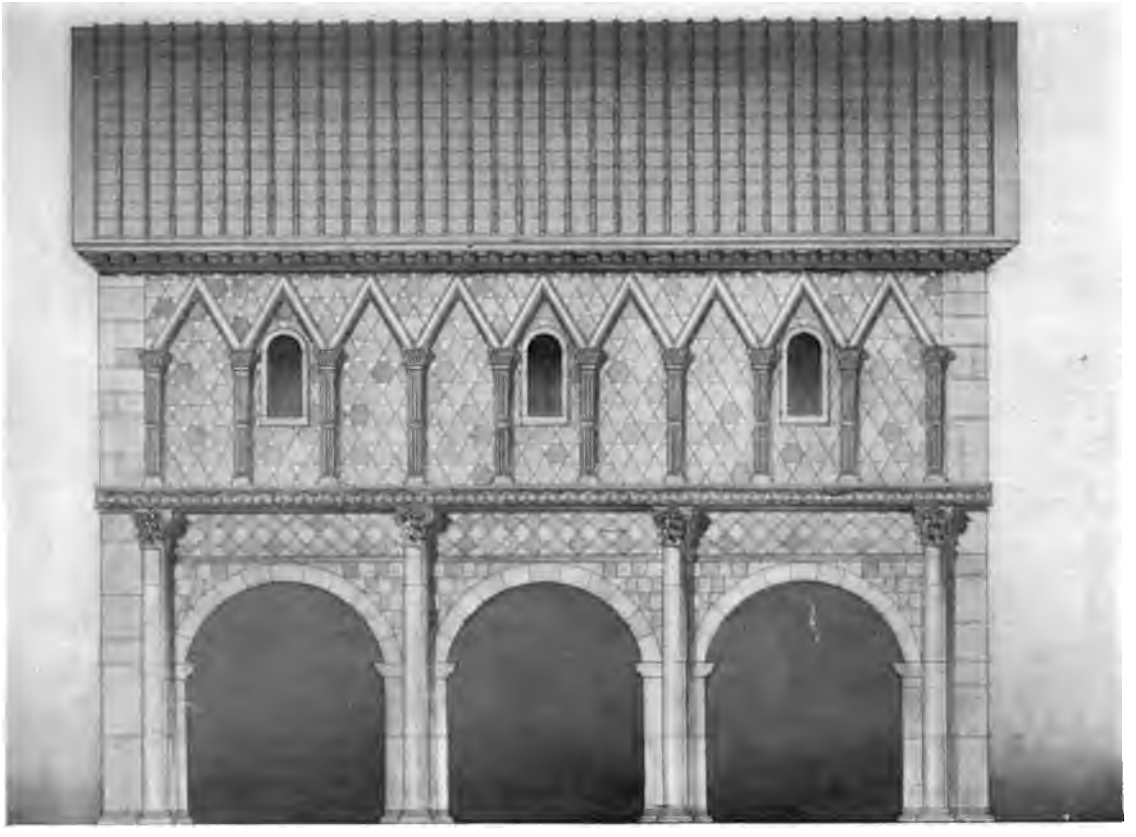

ILL. 98. — Façade of Basilica Gate, Lorsch

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Orderly and consistent progress during this period did not exist; but when architecture emerged from the Carolingian period in the XI century, it was in a form and character totally different from that in which it had entered it in the VI century. How radical this transformation had been will be evident on comparing the nave of Montier-en-Der (Ill. 100) — the type of the most highly developed Carolingian church — with any of the Early Christian or Byzantine basilicas. The change effected had been partly constructive, partly destructive. That the constructive work, although sporadic and contradictory, was nevertheless vital and availing, has already been shown; but the great mission of Carolingian architecture was not creation but destruction.

Five centuries of barbarism are the only conceivable force that could have had the power to free Western architecture from the trammels of Roman formula — that colossus that had bestridden the civilized world from the Persian Gulf to the North Sea, and had fastened its iron heel upon all the West. How impossible it is for a civilized people to free itself from the Roman architectural influence, is proved by the persistence with which even the dead bones of Roman ornament, dug up in the time of the Renaissance, have ever since been the skeleton at the feast of Western art. It was only by means of the forgetfulness of the Dark Ages that the art of the succeeding centuries was free to cut itself loose from the classical canons, and develop into new and untrammeled forms. This was the first great work of the Carolingian era.

The second great work was the using up of all the available classic materials. Much as we regret the destruction of ancient monuments, so long as this had to be done, the sooner it was over with, the better. As long as buildings continued to be built of second-hand pilfered materials, the best kind of progress in technique and construction, as well as complete emancipation from classical forms, was impossible. Towards the end of the Carolingian period the exhaustion of ancient materials had everywhere become fairly complete. This exhaustion was felt later, naturally enough, in localities where classical remains were specially abundant. But when it came — and sooner or

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later it always had to come — it forced a great change in the basilican plan. For columns, which the Carolingian builders had not the skill to cut, piers [1] had to be substituted. In Syria piers had been employed as early as the IV century; in other localities columns continued in use up to the end of the Carolingian era. But after the X century the supply of classical materials had been used up everywhere in the North; we shall deal no more with the columnar basilica. And the pier is the starting point of Gothic architecture.

Strictly speaking, the Carolingian epoch draws to a close in different countries at different times. The magical year 1000, as is now known, had little terror for the medieval mind. So far from there being universal stagnation before this date, and universal activity afterwards, as historians of the old school used to picture, there was much activity before and much stagnation after. From the middle of the X to the middle of the XI century, there is a steady crescendo in the course of architectural advance, a crescendo interrupted by no special spurt to mark relief that the world had safely passed the millennium. Indeed, the fear of impending calamity seems to have influenced the medieval mind about the year 1000 scarcely more than at any other time.

But, nevertheless, by a singular coincidence, the change from Carolingian inactivity to XI century progress — *i.e.*, the formation of the national styles — did take place throughout Europe at about this epoch. Like all historical changes, this was gradual, unconscious; it is impossible to find the hair line which divides the old from the new. Moreover, this change took place at different times in different localities, earlier in Lombardy and Germany, later in the Ile de France and Normandy. And yet, if we are to select an arbitrary date for the end of the Caro-

[1] A pier differs from a column in that it consists of masonry built into the form of a supporting member, while a column is either a monolith or consists of superimposed drums. Thus a pier always contains *vertical* joints; a column either no joints at all or only *horizontal* joints. Columns are ordinarily circular in section; piers, on the other hand, are more often square, rectangular, or of some complicated form. For a given area of section a column is probably stronger than a pier; but the size of a pier can be increased so that it may be made large enough to support any load. For this reason, in the circular Byzantine churches it had been the custom to support the dome on piers, while for the intermediate, lighter supports, columns were used.

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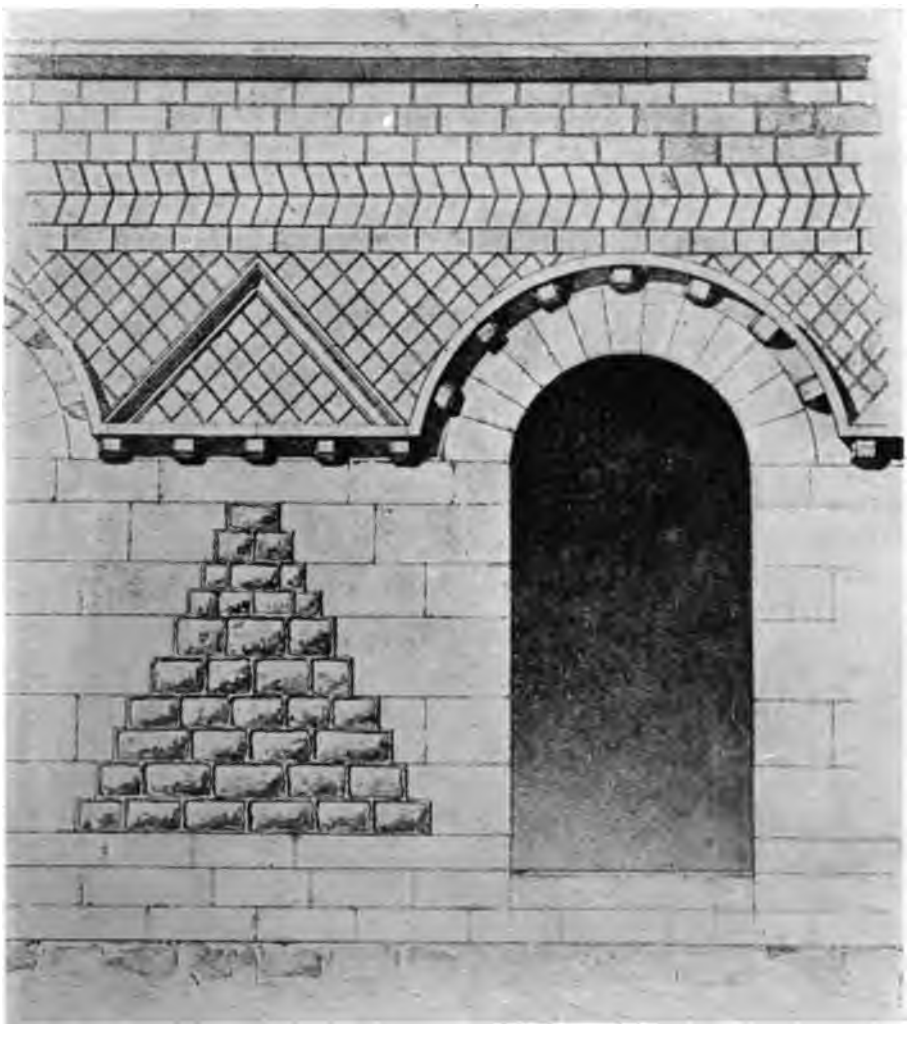

ILL. 99. — Detail of Exterior Clearstory of St. Généroux. (From Arch. de la Com. des Mon. Hist.)

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lingian period, we cannot do better than to take the year 1000.

If this date be agreed upon as marking the end of the Carolingian style, it must be clearly recognized that we include in that style a considerable number of monuments in Germany and Lombardy that belong rather with the succeeding age. Those in Germany need trouble us little in the present connection. Of those in Lombardy, I shall end this chapter with a brief description.

This Lombard style, the earliest of the national movements in architecture, first came to assume form, in a very hesitating manner, as early as the IX century. It adopted as its own certain Carolingian features that we have already studied. The pilaster strip and the arched corbel-table, used as exterior ornament, especially on the apse, became its earliest, as they were ever to remain its most distinctive, decorations. The characteristic structural features adopted were the crypt and the raised choir.

In the X century began a most important progress. We have seen that by this time columns had almost entirely given way to piers. Before this, piers had been almost without exception either square or rectangular in section (Ill. 101, Fig. 2); at most, the edges had been slightly chamfered off [1] with a purely decorative purpose. Now, in the church of S. Eustorgio, Milan — a monument whose precise date is unfortunately unknown, but which was undoubtedly constructed in the last years of the IX or early X century [2] — we find a series of transverse arches thrown across the side aisles (Ill. 101, Fig. 3). There seems to have been no idea of a vault in the construction of these arches; as nearly as we can judge, they were erected partly for decoration, partly to steady the clearstory walls. A long straight wall is obviously less substantial than one strengthened at intervals by walls placed at right angles to it.

Now these arches created a difficulty in the piers, for the old square piers had been entirely occupied by the main arcade, and offered no support to this new arch. This difficulty was

[1] As in the Basse Œuvre of Beauvais (which is, however, a later monument of France).

[2] See List of Monuments, p. 175. Some remains of this primitive structure exist in the present church.

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met by building a special spur against the pier to receive the arch, thus giving the pier a "T-shaped" section (Ill. 96, Fig. 4), instead of the old rectangular section (Ill. 96, Fig. 3). The main arcades would rest (it is understood) on the opposite arms of the "T," the transverse arch on its tail.

The next step, although it cannot be verified from existing monuments, is easy to supply. It would occur to the architects that this "T" section was unnecessarily angular, and that it could be improved by substituting for the rectangular tail of the "T" a semicircular member, like an engaged column. This would serve the purpose of providing a support for the transverse arch equally well, and be much less cumbrous and bulky. This change carried out would give the section shown in Ill. 96, Fig. 5.

One further advance was made before the year 1000, in the church of Ss. Felice e Fortunato, at Vicenza (985 A.D.). The transverse arches which had proved so successful in the side aisles were here applied to the nave. This innovation heightened the impressiveness of the interior of the church, for it practically amounted to repeating many times the triumphal arch, always one of the most decorative features of the basilica. Structurally it stiffened materially the clearstory walls, and tied the church together into an organic unity. (Ill. 101, Fig. 4.)

It was more difficult to provide supports for these transverse arches across the nave than for the transverse arches across the aisles. The springing of the former was near the clearstory level. Consequently their supports must rise from the ground to a height much greater than that at which the pier capitals were situated. Analogy with the supports that had already been devised to support the transverse arches of the aisle naturally suggested that a similar half column be added to the pier on the side of the nave, and boldly continued up beyond the capital along the clearstory wall, until it reached the level of the springing of the transverse arch.

Such was the origin of the compound pier, and its significance cannot be too much emphasized. The section of a pier of the type of Ss. Felice e Fortunato is shown in Ill. 96, Fig. 6, and the elevation in Ill. 97. It is obvious that the two semi-

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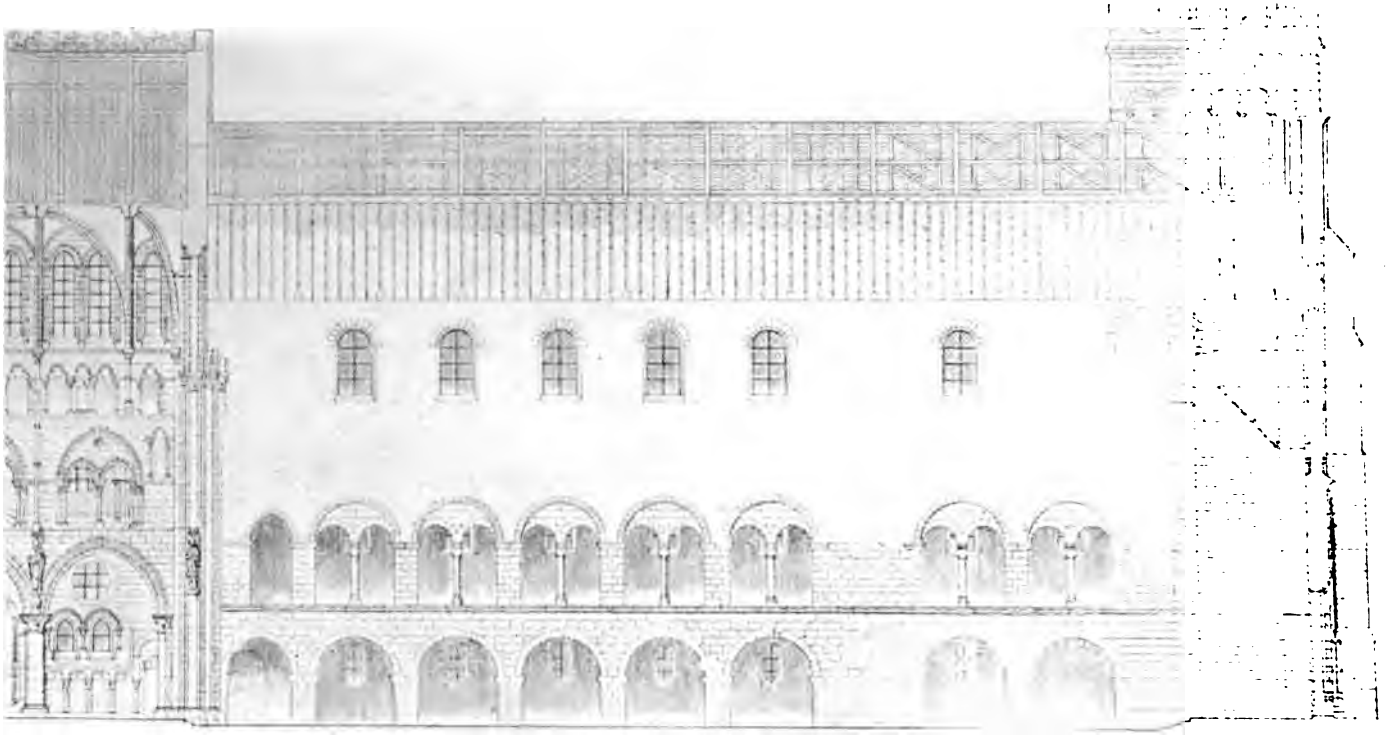

ILL. 100. — Section of Montier-en-Der. (From Arch. de la Com. des Mon. Hist.)

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columns added to the old pier will cause some difficulty with its capital. On the side of the aisle, where the transverse arch sprang from the same height as the arches of the main arcade, it was reasonable to continue the capital of the pier, like a string-course, around the member of the pier which supported this transverse arch. This device, known as a running capital, was henceforth adopted in Romanesque and Gothic architecture. It is a logical and satisfactory solution. On the side of the nave, however, the problem was by no means as easy. The engaged column, or shaft — to give it its proper name — obviously required a capital where it received the transverse arch. Should it be given a second capital by continuing around it the running capital of the main arcade, or should it cut across this? Both plans were tried at various times, and we shall study in a later chapter the solutions that were finally found for this problem.

The innovations introduced at Ss. Felice e Fortunato did not end with the compound pier, running capital, and transverse arch. The architect had evidently found it undesirable to spring a transverse arch from every pier. Arches of such size were more effective from a decorative standpoint if placed further apart; consequently they were sprung *only from every other pier* (Ill. 101, Fig. 4). The transverse arches across the aisles were also sprung only from alternate piers, for the sake of symmetry. Consequently in the intermediate piers where there were no transverse arches to support, there was no need of a compound pier. Here, therefore, the old simple pier was used, and, as having less weight to carry than the compound pier, was made much lighter. Hence arose the *alternate system* of compound piers and light supports, a system full of consequences for the future.[1]

Now, since the aisles of a basilica were commonly about

[1] It seems altogether probable that this entire course of development was worked out independently by the Lombard builders. It is remarkable, however, that a number of these advances seem to have been foreshadowed in the East in Early Christian and Byzantine times. Compound piers and transverse arches both occur frequently in the churches of the Haurân, Syria. In Hagia Sophia transverse arches were sprung over each bay of the aisles, and this same construction is also found in the ancient cisterns of Constantinople. In both these instances the roofing was completed by means of domical groin vaults with semicircular groined arches and raised crowns. (Moore, *Gothic Architecture*, pp. 32, 37.) At Sta. Prasseda in Rome there are transverse arches antedating any in the Lombard school.

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half as wide as the nave, and since the arches of the main arcades were about as wide as the transverse arches across these aisles, a little calculation will show that the great transverse arches divided the nave into nearly square compartments. The reader has long ago guessed that these compartments were exactly fitted to contain a groin vault. But this never seems to have been actually added before the year 1000.

One final innovation in Ss. Felice e Fortunato remains to be noted, and that is the use of the *griffe* in the bases of the piers. During the Carolingian period we have said little of the profiles of mouldings; in the main they remained too debased and rude to be worth study. Generally speaking, however, the Attic type of base had persisted, with its round torus or square plinth. This transition from round to square is somewhat harsh; and at Ss. Felice e Fortunato it was eased by the addition of a griffe or claw, projecting from the torus and filling the corner of the plinth. These griffes later became characteristic of Gothic art.

After this glance at its beginnings so full of promise, let us now turn to the study of the fully-developed style of the Lombard Romanesque.

CAROLINGIAN MONUMENTS

Monuments of the First Class

AACHEN, (Aix-la-Chapelle), Rheinland, Germany. *Dom.* — Ill. 85, 86 — ("Palatine Chapel," "Palastkapelle," "Münster," "Liebfrauenkapelle"). Of the many texts relating to the construction of this famous edifice, I translate several of the more important. "While he was detaining the said Flaviacus by entreaties and benefits, the latter was appointed by the king superintendent of the royal works in the palace at Aachen under Abbot Eginhard, a man in everything most learned. . . ."[1] — "To Gerward, librarian of the palace, the king at that time had entrusted the work of building the palace. . . ."[2] — "Where second Rome, in her mighty new flower, rises great aloft, . . . some build well the temple lovely with its mighty mass,

[1] . . . dum prædictum Flaviacum iure precarii ac beneficii teneret, etiam exactor operum regalium in Aquisgrani palatio regio sub Einhardo abbate, viro undecunque doctissimo a domino rege constitutus est. — *Gesta abb. Fontanell.* c. 17, cit. Schlosser, 8.

[2] Gerwardus palatii bibliothecarius, cui tunc temporis etiam palatinorum operum ac structuarum a rege cura commissa erat . . . — Einharti, *Translatio S. Marcellini et Petri* iv, 8, cit. Schlosser, 9.

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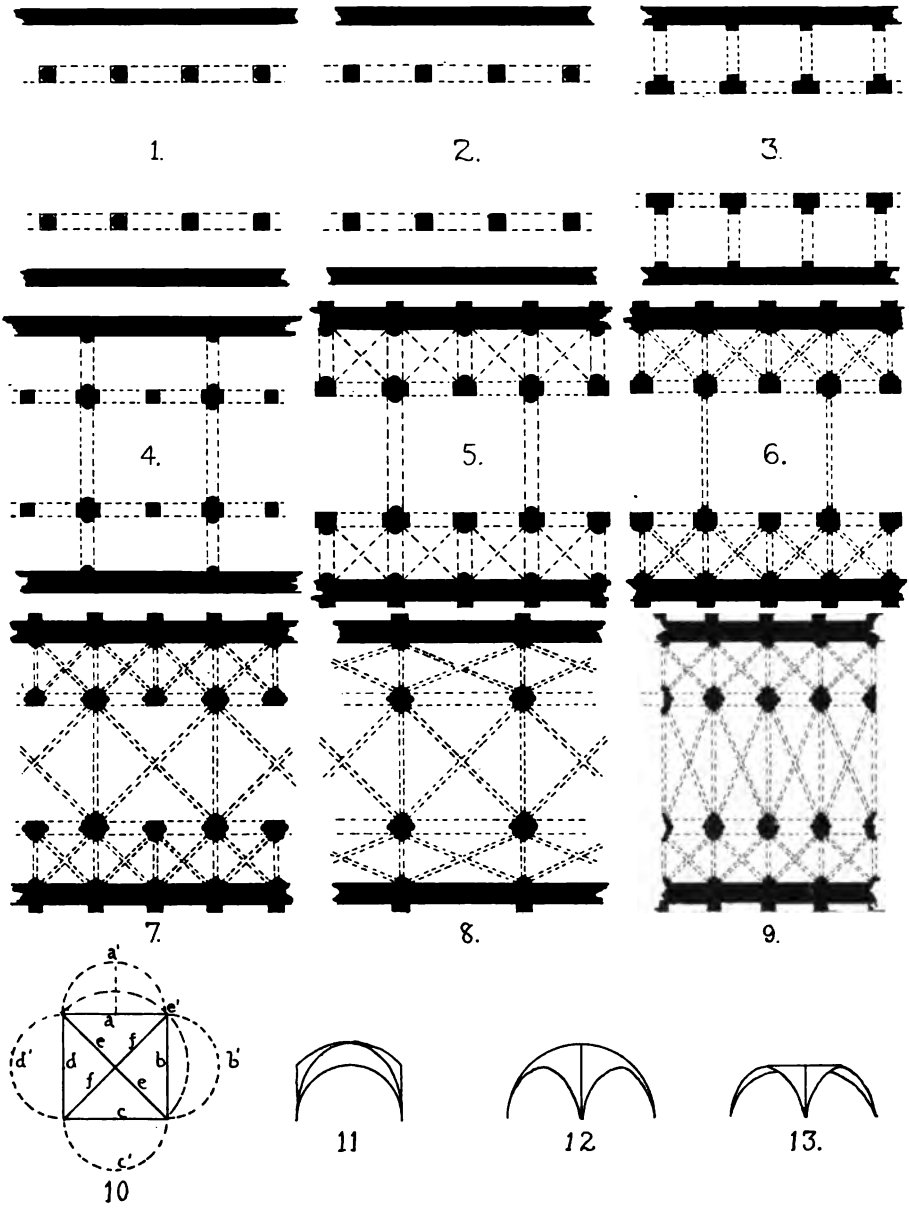

ILL. 101. — Diagram. Evolution of the Rib Vault

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the temple of the eternal king. . . ." [1] — "[Charlemagne] . . . undertook many works for the improvement and embellishment of his kingdom in various places, which works, indeed, he also carried to completion. Especially worthy amongst these may be seen the basilica of St. Mary, Mother of God, at Aachen, constructed with wonderful art." [2] — " . . . He [Charlemagne] built the basilica at Aachen with the greatest beauty and adorned it with gold and silver candelabra,[2] and choir-screens,[3] and doors [3] of solid bronze. Since he could not obtain elsewhere columns and marbles for this building, he had them sent from Rome and Ravenna." [4] — "When the most strenuous emperor Charlemagne [5] could have rest, he chose, not slothful ease, but to sweat in the service of God. Thus he rejoiced at his vow to build on his native soil a basilica surpassing the ancient works of the Romans, and undertook personally the management of this construction, becoming himself, in short, one of the laborers. And for this building he summoned from all the countries this side of the sea builders and workmen skilled in the arts." [6] — "For [in the year 796] he [Charlemagne] founded his residence [at Aachen] and there he built a church of wonderful size, whose doors and choir-screens he made of bronze. . . ." [7] — "Pope Leo [III] wintered at Aachen and there [in 804] he consecrated with great solemnity the church built by Charlemagne in honor of the Blessed Virgin Mary." [8] These passages from authors either contemporary or nearly so, reinforced by many others,[9] establish beyond the possibil-

[1] . . . ubi Roma secunda
Flore novo ingenti, magna consurgit ad alta . . .
Et æterni hoc alii bene regis amœnum
Construere ingenti templum molimine certant.
— Angilberti, *Carmen de Karolo Magno* iii, 94, cit. Schlosser, 25.

[2] [Karolus] . . . opera tamen plurima ad regni decorem et commoditatem pertinenta diversis in locis inchoavit, quadam etiam consummavit. Inter qua præcipua non immerito videri potest basilica Dei gen. Mariæ Aquisgrani opere mirabile constructa. — Einharti, *Vita Karoli*, c. 17, cit. Schlosser, 25.

[3] These are still preserved.

[4] . . . plurimæ pulchritudinis basilicam Aquisgrani extruxit auroque et argento et luminaribus atque ex ære solido cancellis et ianuis adornavit. Ad cuius structuram, cum columnas et marmora aliunde habere non posset, Roma atque Ravenna devehenda curavit . . . — Einharti, *Vita Karoli*, c. 26, cit. Schlosser, 26. See also *Chron. Magnum Belgicum*, p. 44, cit. Schlosser, 26.

[5] Cf. also Poeta Saxo, 431 f. cit. Schlosser, 26; Tituli sæc. ix, no. iii, *Versus in aula ecclesiæ in Aquiis palatio*, Mon. Germ. Poet. Lat., 432, cit. Schlosser, 28; Thegani, c. 6, cit. Schlosser, 28.

[6] Cum strenuissimus imperator Karolus aliquam requiem habere potuit, non ocio torpore, sed divinis servitiis voluit insudare, adeo ut, in genitali solo, basilicam antiquis Romanorum operibus præstantiorem fabricare, propria dispositione molitus in brevi se compotem voti sui gauderat. Ad cuius fabricam de omnibus cismarinis regionibus magistros et opifices omnium id genus artium advocavit . . . — Monach. Sangall. I, c. 27, cit. Schlosser, 28.

[7] Nam ibi firmaverat sedem suam atque ibi fabricavit ecclesiam miræ magnitudinis, cuius portas et cancellos fecit ærea. — *Chron. Moissiacense* a. 796, cit. Schlosser, 28.

[8] Leo papa hyemavit Aquisgrani, et ibidem ecclesiam a Karolo constructam in honore b. Mariæ virginis cum magna solempnitate consecravit. — *Ann. Tielienses* a. 804, cit. Schlosser, 28.

[9] *E. g.* Infra capella scriptum Mss. bibl. cæs. Vindolboa 969; Theol. 354, fol. 556, sæc. X; Einharti *Vita Karoli* ed. Jaffé, p. 51, cit. Schlosser, 28.

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ity of doubt the fact that the chapel at Aachen was constructed by Charlemagne in the years 796–804. For the rest the building has happily preserved through later vicissitudes its primitive forms. In 829 the roof was blown off by a severe windstorm;[1] but the vault seems not to have been injured. Slightly before, in 813, during the mass on Ascension day, a wooden portico before the church had collapsed,[2] burying over twenty men in its fall.[3] The edifice was restored by Louis the German about 870.[4] Burned by the Danes only twelve years later[5] (882), its fire-proof vaults seem to have defied the flames. Other fires followed in 1224, 1366,[6] and 1665; but through all the venerable chapel seems to have preserved its original dispositions. In plan it is undoubtedly an imitation of S. Vitale at Ravenna, but an imitation with so many points of difference that now the mosaics of Aachen are lost, the two buildings produce on the spectator an entirely different impression. At Aachen the niches between the bays — so striking a characteristic of S. Vitale — are omitted. As a consequence the complicated vaulting employed in the aisles of the church at Ravenna became unnecessary. On the ground story, by doubling the number of sides of the external wall, the builders of Aachen found it possible to divide the aisle roof into a series of alternately square and triangular compartments by transverse arches. These compartments were then easily covered with groin vaults. In the triforium gallery the rectangular compartments are vaulted with a series of barrel vaults, whose axes are normal to the radii of the central octagon, but slope down outwards. The building is constructed largely of pilfered materials, and contains almost no original carving. The capitals have entablature blocks. The nave is roofed with a cloistered vault.

Monuments of the Second Class

MILAN, Lombardy, Italy. *S. Ambrogio* (Ill. 92, 94, 106, 107, 108, 116, 119) is probably the most discussed, and the least understood, church in Europe. The question of date has been much confused by an epitaph still extant in the church, which I translate in full: "Here lies Ansperto, the illustrious archbishop of our city; by his life, by his voice, by his shame, by his faith, a follower of justice; a giver of alms to the needy populace; faithful to his vow and to his word; he restored upon request the destroyed walls of the city confided to his care; he gave back the house of Stilico; he rebuilt many sacred buildings with much labor; be built the neighboring atrium and the doors before it;[7] then he dedicated to S. Satiro a temple and a sanctuary, giving all his own fields for the holy place, to maintain forever eight monks, who might pray to Ambrogio and Satiro in his behalf. He died in the year of the incarnation of our Lord 882,[8] on the 7th day of the month of December, the 15th indiction. He

[1] Annalista Saxo a. 829, cit. Schlosser, 29; Astronomus, c. 43; Einharti, *Vita Karoli*, c. 32.
[2] Einharti, *Vita Karoli*, c. 32. [3] Einharti, *Annales* a. 817.
[4] Ludwig II der Deutsche, *Urkunde für Priim.* 870, Oct. 17. M. 1440. cit. Schlosser, 34.
[5] *Ann. Vedastini*, 882, cit. Schlosser, 35. [6] Surigny, 792.
[7] This all-important line is written in such barbarous Latin that its interpretation must remain doubtful. Alternative translations are: "he built the atrium, but first he built the doors," taking *ante* in the sense of *antea*, or—"he built the atrium and the neighboring doors before it," — or, as Cattaneo suggests, "he built the atrium before the doors near to his tomb."
[8] *i.e.*, 881.

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ruled his bishopric 15 years 5 months 12 days; the priest Andrea, moved with love for this bishop, adorned with this work his tomb."[1] "*He built the neighboring atrium and the doors before it.*" This passage has been taken, and is still taken, by many Italian archæologists to prove that the present atrium of S. Ambrogio dates from the IX century. Sig. Cattaneo was the first to point out the inconclusiveness of this argument, remarking that (1) the meaning of the text itself is doubtful, (2) that the tablet bearing the epitaph might have been later brought to S. Ambrogio from another building and hence not refer to our atrium at all, (3) that even supposing Ansperto had built an atrium to S. Ambrogio, it is not at all impossible this atrium might have been rebuilt later. Now let alone the question of the ribbed vault, the decoration of the atrium, so far from being a work of the IX century, is clearly analogous to the ornament executed in Lombardy in the XII century. Rejecting, therefore, the entire argument of the old school critics, who argued back from the atrium supposedly of the IX century, that the rest of the church must be even older, Sig. Cattaneo on a study of internal evidence assigned the different portions of the edifice to the following periods. The three apses and the choir he believes the work, if not of Ansperto, at least of the IX century; in the exterior corbel-tables, copied from the buildings of Ravenna, he sees the beginning of a very important Lombard decoration. The paliotto of the great altar he believes the work of Anghilberto, bishop from 824 to 859; of the ciborium only the capitals are of the IX century, the rib vault being later. The mosaics of the apse he assigns to the XI or XII century. He believes that in the second half of the XI century, or more specifically during the pontificate of Guido (1046–71),[2] the old columnar nave was transformed into a nave with piers and vault; that in the beginning of the XII century the present atrium was built, slightly before the new campanile, which is known to date from 1129. In 1196 repairs were in progress on the vaults of the nave, which had fallen in. It has been contended that the vaults were at this time rebuilt on the rib-system imported from France; but while there is nothing to prove absolutely that the vaults of the XI century were supplied with

[1] Hic iacet Anspertus nostræ clarissimus urbis
antistes; vita, voce, pudore, fide,
Æqui sectator; turbæ prælargus egenæ,
effector voti, propositique tenax.
Mœnia sollicitus commissæ reddidit urbi
diruta — restituit de Stilicone domum.
Quot sacras ædes quanto sudore refecit,
atria vicinas struxit et ante fores.
Tum sancto Satyro templumque domumque dicavit,
dans sua sacrato predia cuncta loco,
Ut monachos pascant æterius octo diebus,
Ambrosium pro se qui Satyrumque rogent.
Obiit anno incarnationis domini DCCCLXXXII,
septimo idus decembris, indictione XV.
Rexit episcopatum suum annis XIII mensibus V diebus XII.
Presulis Andreas prefati captus amore,
Hoc lævita sibi condecoravit opus.

[2] Rivoira.

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ribs, it is unlikely the entire nave was remodeled in 1196, since the new vaults were in all probability reconstructed on the lines of those erected in the last half of the XI century. All this does not lessen in the slightest degree the extraordinary interest attaching to S. Ambrogio, and especially to its IX century east end, which offers not only the prototype of Lombard architecture, but the earliest known instance of a lengthened choir.

Chiesa d'Aurona. The remains of this church, excavated in 1869 and now collected in the Brera Museum, are among the most precious monuments of Carolingian architecture that have come down to us. An inscription[1] on one of the capitals records that, "Here rests Theodore the archbishop who unjustly was condemned." This Theodore is doubtless none other than the archbishop who, as is known from the Milanese chroniclers, was bitterly hated and persecuted by the Lombard king Ariperto, but who was afterwards restored to favor by Luitprand. This bishop died in 739, and hence the fragments of the Chiesa d'Aurona have been held to date from the VIII century. Sig. Cattaneo[2] seriously questions this view. "Who does not see," he writes, "that this inscription can only be a simple indication of the existence of the tomb of Theodore in this church, or underneath the capital, and that by 'here' (hic) must be understood 'in this church' or 'in this place'? And if all this cannot be denied, who can ever affirm that the inscription and with it the capital *must* have been made in the VIII century?" And, in fact, the style of this capital and of several others clearly shows the work of the last years of the XI century. But certain other fragments, differing widely from these, seem without doubt to be remains of the VIII century church, rebuilt in 1099.

S. Satiro. The epitaph of Ansperto quoted above (p. 173) states that that bishop "dedicated a temple and sanctuary to S. Satiro." The present church despite Renaissance mutilations preserves to us considerable portions of this VIII century edifice. The monument, which is of the circular type, although much varied from Early Christian and Byzantine models, consists of a nave of the form of a Greek cross inscribed in a square by means of four columns placed in the corners. Three arms of the cross terminate in semicircular apses. The nave is at present covered with a modern dome, so that the original dispositions cannot be traced; it is probable, however, that the Carolingian edifice was vaulted throughout, in a manner similar to that familiar at Germigny-les-Prés. The campanile is assigned to the IX century on its style. (Cattaneo.)

S. Vincenzo in Prato. A tradition handed down to us by the late Milanese chroniclers, Benvenuto da Quiola, Torre, and Castiglioni, affirms that this church was founded by Desiderius, the last king of the Lombards, in 780.[3] In the present church, however, Sig. Cattaneo — and in this he has generally been followed by later writers — saw evidence of a style somewhat later than that of the Lombard domination, "without denying that the work may have had its beginnings in the more modest

[1] Hic requiescit † dominus Theodorus archiep[iscopus] qui iniuste fuit damnatus.

[2] Sig. Mongeri had also assigned the capitals to 1099.

[3] Desiderius died in 774; it is consequently difficult to understand how he could have founded a church in 780.

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structure of Desiderius; — so much the more so, that we can recognize traces of the style of the VIII century in one of the capitals of the nave."[1] In fact it is known that a monastery was here founded in 814, and that this monastery was subsequently enlarged in 833; it is not improbable that the earliest portions of the present church were erected at the latter date. The edifice has a basilican plan, the three aisles being separated by sixteen columns bearing arches, and terminating in three apses. The façade is absolutely plain, as are all the exterior walls, save only those of the apse which are decorated with arched corbel-tables. The interior columns are largely pilfered. The presbytery is raised. (Cattaneo; Rivoira.)

S. Eustorgio. This church is interesting as representing the first step in the transition from the monolithic columns or square piers of the early Christian style, to the compound piers of the later Romanesque. Of the primitive church of S. Eustorgio, founded in the IV century, nothing remains. The apse is evidently the oldest part of the present structure, and may be assigned to the end of the IX or early X century; the rest of the edifice has obviously been rebuilt in the centuries following the year 1000 with the exception of the two easternmost arcades of the nave, which with their piers seem to be contemporary with the apse. These piers were encased in compound piers in the Lombard reconstruction; but in 1869, in the course of restorations, the old piers were brought to light. From a study of these it becomes evident that in the basilica of the X century the aisles were separated by piers instead of by columns, and that these piers, instead of being square in section, were T-shaped. It is probable, consequently, that in addition to the main arcade of the nave they supported transverse arches thrown across the aisles. (Cattaneo.)

S. Celso (Ill. 97, 102) was built by Landolfo shortly after 988, but was subsequently remodeled in the Lombard style. Of the original building only the apse, with the usual arched corbel-tables, remains. (Cattaneo.)

S. Simpliciano. S. Simpliciano, bishop of Milan and successor of S. Ambrogio, seems to have been buried in a primitive church existing on this site. In the IX century this church was reconstructed, and it has been subsequently many times restored. The central portal of the present façade is said to be part of the IX century building (?). (Marini, 52.)

GERMIGNY-LES-PRÉS, Loiret, France. *Église.* (Ill. 88, 89.) We are fortunate in knowing the exact date of this interesting monument. One text states that "Theodulfus, the bishop, amongst his other works, built in the town which is called Germigny a basilica of wonderful work, like that which has been founded at Aachen, and the memory of this fact is elegantly expressed in these verses:

> "This temple, I, Theodulfus, consecrated in honor of God,
> Whosoever thou art that enterest here, I pray remember me."[2]

[1] Cattaneo, 119.

[2] . . . Theodulfus igitur episcopus inter cætera suorum operum basilicam miri operis instar videlicet eius quæ Aquiis est constituta ædificavit in villa quæ dicitur Germiniacus, quo etiam his versibus sui memoriam eleganter expressit:

> "Hæc in honore Dei Theodulfus templa sacravi,
> Quæ dum quisquis adis, oro, memento mei."

— *Miracula S. Maximi abb. Miciacens*, cit. Schlosser, 218.

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Another text records that "Theodulfus built a church of such wonderful art that not in all Neustria . . . could be found another to equal it."[1] Since Theodulfus was bishop of Orléans from 801 to 806, it is evident that the church must have been erected between these dates. Even more conclusive, however, is the inscription still preserved on the northeast pier of the church itself: "In the year of the incarnation of the Lord 806 under the invocation of Ste. Ginevra and St. Germigny"[2] — and on the southeast pier the inscription is continued: "the fifth of January, dedication of this church."[3] The monument was in excellent preservation until the present century, when it was torn down and replaced by a copy. The plan, recalling the church of S. Satiro, Milan, and the Prætorium of Mousmieh, Syria, consisted of a Greek cross inscribed in a square by means of four piers placed in each corner of the square. The arms of the cross were barrel vaulted, and all (except probably the western) terminated in semicircular apses covered with half-domes. The aisles were each roofed with a dome, as was also the crossing. The dome over the crossing was raised so high above the rest of the building as to assume the character of a central tower, and was externally flat-roofed. The building was originally richly decorated with Byzantine mosaics and stuccos, but of these only the mosaic of the eastern apse is still preserved. The carving throughout was rich, and the apse internally was adorned with a blind arcade above the windows. Arched corbel-tables formed a prominent feature of the exterior decoration. The windows were double-squinched; and, strangely enough, the arches had a decided tendency towards the horseshoe form. (Bouet; Corroyer; Enlart; Archives de la Comm. des Monuments Historiques III.)

BEAUVAIS, Oise, France. *Basse Œuvre.* The bishops of Beauvais, driven from St. Lucien by the Normans at the end of the X century, moved their church to the site of the present Basse Œuvre, and a cathedral was here begun in 987 by the Bishop Hervé.[4] There can be little doubt that the nave and façade of this church of Bishop Hervé are preserved to us in the present Basse Œuvre,[5] although archæologists in the past have advanced the wildest theories regarding this structure. The east end was destroyed when the present cathedral was built, and, indeed, the Basse Œuvre owes its partial preservation to the fact that the nave of the Gothic church was never completed. The interior of the Basse Œuvre is plainness itself, and is now entirely smudged over with white plaster. The three aisles are separated by piers either square, or with the edges slightly chamfered. The wooden ceiling is perfectly flat. Nowhere is there to be seen a sign of a moulding or of decoration of any kind. Externally there is more attempt at ornamentation, though the structure has so suffered from later alterations that it is difficult to reconstruct the original edifice. Bands of colored brick are used decoratively; the billet moulding occurs, and the string-courses are

[1] Theodulfus ecclesiam tam mirifici operis construxit ut nullum in tota Neustria invenire possit ædificii opus quod ei. . . . valeret æquari. — *Catalogus abb. Floriacens.*, p. 491, cit. Schlosser, 218.

[2] "Anno incarnationis Domini DCCC et VI sub invocatione Sanctæ Ginevræ et Sancti Germigni."

[3] "Nonas januarii dedicatio hujus æcclesiæ."

[4] Woillez.

[5] Enlart.

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arched over the windows. Triangular ornament also was used in this façade, on the voussoirs, and elsewhere. The windows are large and splayed internally.

POITIERS, Vienne, France. *Baptistère St. Jean* (Ill. 80, 81) "the oldest church in France." Although there is no documentary evidence for the date of this monument, archæologists are agreed in assigning it to the VI or VII century. Foundations have recently been found which prove that the nave was originally longer than it is to-day. The present plan consists of a rectangle flanked at the ends by two semicircular apses, and on one side by an apse polygonal internally and square without. A sort of vestibule dating from the XI or the beginning of the XII century is separated from the main body of the edifice by three arches. The eastern façade is the most interesting part of the church, presenting analogies to Lorsch and to the Basse Œuvre of Beauvais. The decoration in general shows strong Byzantine influence.

St. Hilaire. The base of the tower and parts of the transepts are said to have belonged to the church of Adèle d'Angleterre, consecrated in the X century. (Robuchon, 89 seq.)

BRESCIA, Lombardy, Italy. *S. Salvatore* (Ill. 83). An ancient manuscript of this monastery commences with these words: "In the year of the incarnation of the Lord 753 our monastery was begun. . . . Afterwards it was consecrated by his holiness the Pope with his cardinals as is proved by authentic chronicles in our monastery."[1] Other historical documents confirm this manuscript, stating that the monastery was founded by the Lombard Desiderius and his wife before the former mounted the throne, that is, before the death of Aistulf in 756. Now in 753 Pope Stephan III crossed Lombardy to visit the court of Aistulf. If, then, it were not known that a church had existed here before this time, we should seem to have clear evidence for the date of the present edifice. But it is known that the church of Ss. Michele e Pietro was built on this site in the VI century; hence the doubt arises whether the word *monastery*, as used in the passage cited above, refers to merely the conventual buildings, or whether it included the church as well. The style of the existing remains, however, accords so well with the date 753 that archæologists under the leadership of Cordero and Cattaneo are practically unanimous in seeing here a church of the VIII century. The capitals are almost entirely pilfered; among them are some strongly Byzantine in character that probably came from the VI century edifice. The arches of the main arcade are entirely unmoulded. Of the upper part of the ancient church nothing remains, and only the foundations of the original single apse are in situ. The present edifice has three aisles and is of the usual basilican type. Many remains of the old church furniture are in the neighboring museum. The crypt shows two distinct parts. one corresponding to the nave, the other to the apse; the first is doubtless an addition of the XII century, but the latter belongs to the construction of the VIII century. (Cattaneo.)

Duomo Vecchio or *Rotonda.* In the chronicle of a certain Rodofo, a notary of the XI century, the following passage occurs: "Raimond, count of Brescia, heard in

[1] Anno ab incarnatione D[omin]i CCCCCCCLIII inchoatum fuit monasterium nostrum. . . . Postea consecratum fuit per dominum papam cum suis cardinalibus prout invenitur in chronicis satis autenticis in dicto nostro monasterio. — Cit. Cattaneo.

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what good repute were the names of the dukes Marquand and Frodoard. One of these dukes had begun to build from its foundations a great and celebrated basilica, and this basilica his son had finished by the aid of gifts sent even by King Grimoald. Moved by this example Raimond himself began to build a similar basilica . . . but he did not complete it."[1] Many archæologists hold that the present edifice is the church of Raimond, and hence dates from the end of the VIII century, — a view sanctioned even by Dehio. Since, however, in a recent restoration a stone bearing a dated inscription of 897 was found used as second-hand material, it is certain that the present building must be later than the IX century. It is probable that a fire which destroyed the city in 1097 destroyed also the church. The present crypt, however, may well be a relic of the ancient edifice. A text cited by Cattaneo seems to prove the church of Raimond had a crypt: "In the time of this count [Villerado] Bishop Ramperto carried the body of S. Philastrio from the church of S. Andrea into the city to the crypt of the greater church of the Blessed Virgin."[2] The fact that such a crypt existed is still further confirmed by a sermon of 838 written by this same bishop Ramperto. Therefore there can be little doubt that the present crypt dates from the VIII century. The plan is somewhat irregular, but in the main basilican, three aisles terminating in three apses. The capitals offer a most interesting study, a few being evidently contemporary with the construction of the VIII century, the others pilfered from various older buildings. — The upper church of the XI century is circular and covered by a dome. The aisles are vaulted with groin vaults by the same system of alternate rectangular and triangular compartments employed at Aachen. The masonry is small and rough; of decorative carving there is almost none, and the mouldings are scant and simple, though the exterior is adorned with arched corbel-tables. A tower formerly rose over the entrance, as may be seen from the remains of two spiral staircases there placed. The dome is not expressed externally. (Cattaneo; Dehio.)

LORSCH, (near Worms), Hessen, Germany. *Façade.* (Ill. 98). Archæologists are much at variance in regard to the identity of this important monument and the date to be assigned to it. Two churches are mentioned by the chroniclers as having been erected at Lorsch in the Carolingian period, and the question, to which of these buildings the present remains belonged, has given rise to much difference of opinion. In the Annals of Lorsch under the year 767 occurs the following text: " [Henotgang] . . . founded [the church of] St. Gorgorius in his own monastery which he himself had built anew, and whose name is Gorzia; St. Nabor in another monastery which is called Novacella; and lastly St. Nazarius in our monastery at Lorsch."[3] Under the year 776 we read further: "Charlemagne, returning from Italy, celebrated in the monastery of Lorsch the consecration of the church of St.

[1] Raimo comes Brixiæ, quum audiret quam bonæ recordationis essent nomina ducum Marquardi et Frodoardi, quorum unus inceperat ædificare a fundamentis, et filius perfecerat grandem et celeberrimam civitatis basilicam, et cui munera ad adiutorium rex Grimoaldus etiam contulerat, ipse cepit fundare similem basilicam . . . sed non complevit. — Cit. Cattaneo.

[2] In huius comitis [Villeradi] etiam tempore, Rampertus episcopus de ecclesia Sancti Andreæ portavit corpus Sancti Philastrii intra civitatem in confessione majoris ecclesiæ sanctæ Dei Genetricis.

[3] [Henotganus] . . . condidit S. Gorgorium in monasterio suo, quod ipse a novo ædificav

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Nazarius and the translation of the body of the saint, on the 1st of September, in the year of the incarnation of our Lord 774."[1] Other passages state that Helmeric "built the ceiling, laid the pavement, and decorated the altar"[2] about 779; that Richbod adorned it further in 785;[3] that about 805 Adalung dedicated several altars, and still further added to the decorations of the church.[4] The history and date of the church St. Nazarius may consequently he held to be quite firmly established. But now comes the difficulty. A little further on in the same chronicle of Lorsch occurs this text: "[Louis the German] . . . was buried in the church which is called *varia*,"[5] *i.e.*, many-colored. Louis the German died in 886. There is also another passage referring to the *ecclesia varia:* "Louis III, son of Louis [the German], King of Germany, died and was buried beside his father, at Lorsch in the church called *varia*, which he himself had constructed for this very purpose."[6] The question consequently arises, to which church — to St. Nazarius consecrated c. 774 or to the "*ecclesia varia*" built by Louis III, c. 886 — do our remains belong? Herr Savelsberg and Herr Förster, followed even by M. Enlart, believe that the existing façade formed part of the *ecclesia varia* because the decoration in several colors so exactly corresponds to the word *varia*. Herr Adamy, however, seems to have successfully established the opposite contention. To follow his argument it is necessary to recapitulate the later history of St. Nazarius. The Carolingian basilica was burned in 1090, and a Romanesque church was built in its place. Of this Romanesque edifice, which was consecrated in 1131, three arches are still extant. Now it is remarkable that the axis of this Romanesque church coincided precisely with the axis of our monument. This fact caused Herr Adamy to suspect that the existing ruins belonged to the entrance gateway of the atrium of the Carolingian basilica of 774. This suspicion was verified by excavations which laid bare the foundations of the old atrium. The gateway itself, recalling somewhat in its design a Roman triumphal arch, consisted of two fronts, very similar in design, one of which opened on the atrium, the other on the street. Exceptionally classic Composite orders, surmounted by Ionic-like pilasters bearing triangular arcades, framed the three archways. According to Herr Adamy's restoration the church itself was a three-aisled basilica, with a single apse, no transepts, two western towers, and a narthex. (Adamy, Förster, Enlart.)

HÖCHST A. M., Nassau, Germany. *Heil. Justinus.* "Here in honor rests Justinus, whose sacred bones Otgar the bishop received from Rome and placed within

erat, qui vocabulum est Gorzia; S. Naborem in monasterio alio, quod dicitur Novacella; S. vero Nazarium in monasterio nostro Laureshamensi. — *Ann. Lauriss. min.* a. 767. cit. Schlosser, 47.

[1] Karlus ab Italia regrediens dedicationem ecclesiæ Nazarii et translationem corporis ipsius in monasterium Lauresham celebravit a. inc. dom. 774, die Kal. Sept. — *Ibid.*, a. 776. According to the Lorsch chronicles this or possibly another consecration took place August 14, 777. — *Chron. Lauresham.* a. 777, cit. Schlosser, 54.

[2] *Chron. Lauresham.* a. 779, cit. Schlosser, 47.

[3] *Ibid.*, a. 785.

[4] *Ibid.*, a. 805.

[5] [Ludovicus Germ.] . . . in æcclesia, quæ dicitur varia, sepultus est. — *Ibid.*, p. 109.

[6] Ludovico III rege Germaniæ filio Ludowici defuncto et iuxta patrem apud Lauresham in ecclesia quæ dicitur varia quam ipse huius rei gratia construxerat sepulto. . . . — *Ibid.*, p. 375.

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this church, which he had erected for this purpose."[1] This inscription, formerly in the church, fixes the date of the construction, for we know Otgar was bishop of Mainz from 826–847.[2] The church is mentioned in documents of 1024; it was restored in 1090, according to an extant edict of the archbishop Ruthard of Mainz. The building, however, retains largely its original dispositions, which are those of a "T-shaped" three-aisled basilica with transepts. There seems to have been no tower. The uncut Corinthianesque capitals were sculptured for their present position. (Schmitt.)

MICHELSTADT–STEINBACH, Hessen, Germany. *Kirche.* In the Annals of Fulda, under the year 821, we read of a "dedication of the church of Michelstadt in the Odenwald."[3] In Einhardt there is another text referring to this church: "They come . . . to the place called Michelstadt. This place is in that forest of Germany of which the modern name is Odenwald, and which is distant from the Main River about six leagues. There they found a basilica which I had newly constructed but had not yet dedicated, and to this they bore those sacred ashes."[4] The translation of relics, in connection with which this passage occurs, is thought to have taken place about 827, so that there is a slight discrepancy between the two texts. The construction of the church, however, may be safely referred to the first quarter of the IX century. Fortunately much of the original building — the narthex, the main arcades, the north transept, the crossing, and the apse — is preserved to us in essentially the original form. It was a three-aisled basilica, the aisles being separated by piers. The transepts were shut off from the crossing by low arches; on the east side of each transept was a semicircular apse. Before the church was an atrium. (Bergner; Dehio; Enlart.)

SELIGENSTADT, Hessen, Germany. *Kirche*, begun by Eginhard in 828, is said to be still in excellent preservation, though the eastern parts have been destroyed. I have been able to find no adequate publication of this important monument; it is briefly described by Dehio, *Kirch. Bauk.*, p. 164.

GRADO, Venetia, Italy. *Sta. Maria* is assigned on its style to the last years of the VI century, and is one of those puzzling buildings which one hardly knows whether to call Early Christian, Byzantine, or Carolingian, since it belongs in a sense to all three styles. The church has no atrium nor narthex; it is a three-aisled columnar basilica with an apse masked externally and flanked by the two chapels of the prothesis and apodosis. Fragments of a Byzantine mosaic cover the floor. The capitals are of

[1] Istic Justinus pausat honorifice
Quem Otgarius præsul Romana asscivit ab urbe et
Ecclesia ædificans ossa sacra hic posuit.
— *Hrabani Carm.*, 71, *Versus ad Sepulchram S. Justini Confessioris*, cit. Schlosser, 38.

[2] Other texts confirm this inscription; Schmitt refers to five poems of 32 lines in all by Rhabanus Maurus, successor to Otgar, which "sich ausschliesslich auf dem heiligen Justinus und die zu seiner Ehre von Erzbischofe Otgar errichtete Höchsten Basilika beziehen."

[3] Dedicatio ecclesiæ Michilinstat in Odtonwald. — *Ann. Fuld.* a. 821, cit. Schlosser.

[4] Ad locum Michilinstadt nuncupatum . . . perveniunt. Is locus est in eo saltu Germaniæ qui tempore moderno Odenwald appellatur, et distat a Mæno flumine circiter leucas sex. In quo cum basilicam noviter a me constructam, sed nondum dedicatam invenissent, in hanc illos sacros cineres intulerunt . . . . — Einharti, *Hist. Trans. ss. Marcellini et Petri*, c. 2, cit. Schlosser. This passage is confirmed by Hrabani, *Carm.*, 83, cit. Schlosser.

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the Composite, Corinthianesque, or basket types, while some seem to have been remodeled into a Romanesque form; all are surmounted by stilt-blocks of varying sizes. (Cattaneo.)

Baptistery was restored under Fortunatus in 803–826, by workmen imported from France. (Cattaneo.)

ST. GÉNÉROUX, Deux Sèvres, France. *Église.* (Ill. 90, 99.) There is no documentary evidence for the date of this church, which, however, may be assigned on its style to the X century.[1] It was materially altered in the XII century, but the original dispositions may still be traced, despite recent vandalistic "restorations." The church consists of three aisles ending in three apses vaulted with semidomes. A transverse wall, pierced by three arches surmounted by three triple windows, divides the nave into two unequal parts. Beyond this opened a transept, whose projecting arms, now walled off, were originally supplied with two semicircular absidioles. The clearstory is pierced with windows, separated from each other externally by patches of triangular ornament. The exterior is also ornamented with triangular stone-cutting which recalls Lorsch. Arcuated billet string-courses occur. The choir is prolonged by two (very short) arcades, continuing the lines of the main arcade of the nave. (Arch. de la Comm. des Mon. Hist. II; Enlart.)

AGLIATE, or ALLIATE, (south of Monza), Lombardy, Italy. *S. Pietro.* As far as is known there are no ancient texts bearing upon the history of this monument. However, Giulini — on the authority of an historian of the bishops of Milan — ascribes its foundation to Ansperto († 881), remarking at the same time that he does not know on what foundation this writer had based his assertion. Cattaneo after a careful study of the internal evidence of the monument accepted the tradition. The presbytery in its three apses and lengthened choir shows analogies to S. Ambrogio. The apse is decorated externally with flat pilaster strips supporting a horizontal strip, — an ornament clearly related to the arched corbel-table. The three aisles are separated by pilfered columns. There is no atrium nor narthex. The two eastern bays of the nave, twice as wide as the others, were probably substituted at some later date for four of the original bays. (Cattaneo; Rivoira.)

Baptistery is octagonal in plan, and evidently contemporary with the church. The windows, like those of the basilica, are double splayed. The exterior ornament consists of pilaster strips and arched corbel-tables. An unusual feature for a baptistery is the projecting apse. (Cattaneo.)

ARLIANO, (near Lucca), Tuscany, Italy. *S. Martino.* There is no documentary evidence for the date of this church, except a bare mention in a document of 892, which gives the impression that it had already existed an indefinitely long time. Ridolfi, quoted with approval by Cattaneo, assigns the edifice on its style to the early years of the VIII century. The church is basilican in plan, consisting of three aisles, but the northern side aisle is wider than the southern. Both are now separated from the nave by two ranges of two square piers, on which rest arches. There is a simple apse. The dimensions are small, the entire building being only about 17 meters long. For the old roof, doubtless of wood, a modern vault has been sub-

[1] Hardly to the IX century, as is often done.

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stituted, and it is probable that the original pilfered columns were replaced by the present piers at the same time that this vault was constructed. The exterior, with its low clearstory, is severely plain, being ornamented only with corbel-tables and pilaster strips. (Cattaneo; Rivoira.)

SAN LEO, Marches, Italy. *Pieve.* The date of this building is believed to be established by the ancient ciborium over the altar, which, as the inscription still extant records, was erected by Duke Orso of Ferrara in the times of Charles the Fat (879–887) and of the pope John VIII (872–882). Four marble columns of this ciborium are preserved in the present baptistery, and their capitals present the same forms, and are evidently contemporary with, the capitals belonging to the main body of the edifice. Consequently it is assumed that the church must have been built between 879 and 882. The edifice is of the usual basilican form; the three aisles are separated by two columns and ten piers. Doubtless the original supports were all columns, for which the piers were substituted when the modern barrel vault was constructed. There are three apses, decorated externally with pilaster strips and corbel-tables. (Rivoira.)

CIVIDALE-IN-FRIULI, Venetia, Italy. *Sta. Maria in Valle.* (Ill. 84). A chronicler of the XVI century states the present edifice is the same as that erected by Pertruda (762–776) in the VIII century. This rather questionable evidence, which is entirely unconfirmed, Cattaneo rejects, assigning the building on its style to about 1100. Judging merely from photographs, I am inclined to agree with this ascription. The great weight of modern criticism, however, accepts the monument as an authentic work of the VIII century. The plan is most exceptional: a square cella slightly over six meters in each dimension is covered with a groin vault. From this cella, which is richly decorated, opens a little presbytery subdivided by columns with architrave into three chapels, over which rise three slightly stilted barrel vaults. The exterior is decorated by blind arches enclosing the windows. (Cattaneo; Rivoira; Enlart.)

ZARA, Dalmatia, Austria. "*S. Donato.*" Constantine Porphyrogenitus, speaking of the church of Sta. Anastasia at Zara, goes on to say, "And there is near this another church that is vaulted, the Holy Trinity, and above its aisle, another aisle for the catechumens,[1] and this is vaulted, and reached by spiral staircases."[2] This passage has been commonly taken to refer to our monument, and, if so, proves that it must have been built earlier than the year 949, when Constantine wrote. The title by which it is commonly known — S. Donato — is generally explained by supposing that the name of its founder had been transformed into a supposed patron saint. Consequently it has been assumed by Messrs. Hauser, Bulic, Jackson, and Smirichi, who have been followed by Messrs. Dehio, Rivoira, Enlart, and the great bulk of modern archæologists, that the church was founded by the bishop Donato III, a contemporary of Charlemagne, in the early years of the IX century. The discovery of

[1] Non-communicants.

[2] Ἐστί τε καὶ ἕτερος ναὸς πλησίον αὐτοῦ εἰλημματικός, ἡ ἁγία Τριὰς, καὶ ἐπάνω τοῦ ναοῦ αὐτοῦ πάλιν ἕτερος ναὸς δίκην κατεχουμένων, καὶ αὐτὸς εἰλημματικὸς εἰσανέρχονται διὰ κοχλείας. — Const. Porph., l. c., c. 29.

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an inscription is thought by these authors to establish with certainty the date 810.[1] Cattaneo, almost alone, maintains that the edifice is later than 1000. The plan of the church is peculiar. A circular nave is surrounded by a circular aisle, from which break out on the eastern side three semicircular apses. The nave and aisle are separated by six piers and two pilfered columns, the latter placed before the apses. The gallery was doubtless originally vaulted. There are few mouldings and no ornament, except that the apses are decorated externally with blind arches. (Jackson; Rivoira; Dehio; Cattaneo; E. von Edelberg; Enlart.)

Baptistery is hexagonal with semicircular niches. The dome seems to have been built in the second half of the XIII century, though it may be older. The details of the construction have not been published with sufficient care to make it possible to determine the date of this monument. (Dehio.)

VERONA, Venetia, Italy. *Sto. Stefano* is a most important monument offering an early and unexpected example of the use of the ambulatory. The church is of very ancient foundation; as early as the middle of the V century it seems to have been demolished by order of Theodoric, though it must have soon after been rebuilt, since St. Petronius was buried here in 540. Cattaneo believes that another reconstruction took place in the VIII century, since certain capitals, which he assigns to that date, are employed as second-hand material in the present edifice. These capitals he thinks must have come from an earlier church on this same site. In the present building, two distinct parts may be traced. The first, including the apse and ambulatory, Cattaneo assigns to the X century; the remainder, including the façade, the nave and side aisles, the presbytery, the cupola, and the crypt, he believes to be of the XII century. The apse is surrounded by a semicircular ambulatory, the true continuation of the primitive side aisles, which no longer exist. This ambulatory is vaulted with groin vaults in alternately square and triangular compartments, and is surmounted by a gallery, also vaulted. (Cattaneo; Rivoira.)

Ss. Tosca e Tenteria was consecrated in 751 by the bishop Annome. Another consecration took place in 1160, and at this time, no doubt, most of the present structure was erected, though the outside wall and the apse probably antedate the year 1000. The church consists of a square central area, surrounded by a square aisle, and covered by a groin vault raised over a little clearstory supported by four piers. To the eastward projects a single apse. (Cattaneo; Rivoira.)

Duomo. Canobio[2] states that "in 780, during the life of Bishop Loterio, the church of Sta. Maria Matricolare was not very large" and that that bishop "rebuilt it, aided at first by Bertada, who was wife of Pipin and mother of Charlemagne, and later by the wives of Desiderius and of Charlemagne, so that the church was completed in better form under Bishop Ratoldo (802–840)."[3] The oldest parts of the present edifice — the outside walls, the apse, the doors, etc. — were long thought to belong to this primitive church, but are now recognized as a work of the XII century. In 1884 excavations revealed a pavement of the VI century, a capital, and other

[1] See Jackson, p. 213.

[2] *Storia di Verona*, libro V.

[3] I translate this passage cited by Cattaneo.

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débris of the church of the VIII century. The capital is very classic, and of the uncut Corinthian type. (Cattaneo.)

VICENZA, Venetia, Italy. *Ss. Felice e Fortunato.* This monument is highly important, as offering one of the earliest examples of the compound pier that has come down to us. An historical document[1] states that in the year 985, the bishop Ridolfo having found this church "destitute of every monastic cult and sacred service, on acount of the negligence of the priests and the barbarous peoples who recently burst into Italy" called thither the black Benedictines and restored the church "in honor of the sainted martyrs Felice, Fortunatus, Vitus, and Modestus." This church of Ridolfo underwent in the course of centuries restorations, rebuildings, and mutilations, and in 1614 it was completely transformed. Some parts of the earlier buildings, however, may still be traced. The main portal dates mainly from 1153; the apse from 1179; the windows of the crypt from 1183; and the campanile from 1160, as is known from the inscriptions, with which this church is most generously supplied. Cattaneo believes that the portions dating from the XII century are only those enumerated above together with the crypt and certain fragments of the walls. The remaining medieval work, he thinks, may be referred to the building of 985, which consequently must have been not merely a restoration, but a thorough reconstruction of the church. The medieval structure suffered heavily even before the XVII century, for in the XIV century the monks, wishing to fortify the campanile, found it necessary to separate this from the church. Therefore they tore down the eastern portion of the northern aisle, and for the sake of symmetry walled off a corresponding portion of the southern aisle to form a sacristy. Probably at the same time the old compound piers were worked over into a circular form. Six of the original piers, however, remained embedded in the new walls, and these are still preserved to us. They show a system of supports alternately heavy and light, the heavy piers being of compound section with a semicircular colonnette engaged on each long face. It is probable that the church was not vaulted, but was furnished with a series of transverse arches, thrown across nave and aisles, in a system similar to that of S. Miniato at Florence. The capitals of the compound piers are continuous, and their bases are supplied with griffes — in each instance the earliest known examples of these important features. (Cattaneo; Rivoira.)

Monuments of the Third Class

VALPOLICELLA, (near Verona), Venetia, Italy. *S. Giorgio* (Ill. 82). An ancient ciborium belonging to this church is in the museum at Verona, and is dated 712 by an inscription. Further than this there is no documentary evidence for the date of the church. Cattaneo, working on internal evidence, believes that the monument was originally a basilica of the VII century with columns and a single apse. At the end of the VIII or beginning of the IX century he thinks that the orientation was reversed, the old western apse being turned into an entrance, and the present three eastern apses and the piers being added. The existing vault is, of course, modern. (Cattaneo.)

[1] See J. Cabranca e F. Lampertico, *Grande Illustrazione del Lombardo Veneto, Vincenza, e il suo territorio*, p. 796.

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INSEL REICHENAU, Constance, Germany. *Stiftskirche der heil. Peter und Paul in Niederzell.* The eastern part of this church is held to be largely part of the original foundation of 799–802. The grave of the founder — originally in the western apse — is now in the middle of the choir. It is covered with a (restored) bronze plate, whose metrical inscription gives the year of his death, 802. The original plan of the church, as nearly as it can be disentangled from the later alterations, consisted of a basilica with one western and three eastern apses, the latter masked externally. The aisles were separated by piers, and the nave was three bays long. There were probably two western towers flanking the central gable. (Adler, 550.)

Stiftskirche des heil. Georgs in Oberzell. The eastern parts of this church — the choir, the crypt, the crossing, and the semicircular transepts, — are evidently the oldest part of the structure, and doubtless belonged to the original building of 889. The Carolingian church had no side aisles, and was supplied with only a single apse, strangely enough, square in plan. There was a central tower. (Adler, 556.)

Heil. Maria im Mittelzell. There are two important texts bearing on this monument. The first states: "The basilica of St. Mary at Reichenau was built and dedicated by Haito, abbot and bishop."[1] Haito held office about 816. The second text, apparently an inscription, is preserved in the Tituli Augenses: "Whoever thou art that comest under this sacred roof, while thou gazest at the rare beauty of the mighty temple, let there be tears for these things, and let mortal affairs lay hold on thy mind.[2] . . . These walls which thou now seest were raised with much labor, and formerly lay overturned and unknown in their ruin, and the crumbling walls showed their naked beams. But now the mighty hall is filled with heavenly serenity, the hall, which, after it had fallen to the ground, Haito, the priest, full of divine inspiration, again built from the foundations, that all the citizens might here assemble."[3] The same poem a little farther on refers to embellishments added by Geroltus. A second consecration took place under abbot Witigowo in 991, and only a short time afterwards (1048) a third consecration was solemnized by Berno. In 1172 further alterations were carried out, and in 1447, as is known from the inscription, the Gothic choir was built.

[1] Augiæ basilica s. Mariæ a Heitone abbate et episcopo constructa et dedicata est. — Herimanni Contracti, *Chron. Augiense*, a. 816, cit. Schlosser.

[2] Quoted from Virgil, *Æneid* I, 462:

"Sunt lacrimæ rerum et mentem mortalia tangunt."

[3] Quisquis ad haec sacri concurris culmina tecti,
Atque sub ingenti lustras dum singula templo,
Sint lacrimæ rerum et mentem mortalia tangant!
* * * * * * * * *
Mœnia quae cernis, quantoque elevata labore,
Olim convulsa agnoscuntur et undique lapsa,
Nudatosque trabes paries vacuatus habebat.
At nunc aula potens divino plena sereno,
Quæ disiecta solo rursus fundavit ab imo
Haito completus divino nutu sacerdos,
Fecitque, ut libeat cunctos hunc currere cives.

— *Tituli Augienses.* Mon. Germ. Hist., Poetæ Latini aevi Carolini II, 428, No. 5.

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Hübsch erroneously called this monument mainly a work of the IX century, and in this ascription has since been blindly followed by several archæologists. In point of fact the aisle walls and the east arch seem to be the oldest part of the church, and may date from 991 or 1048. The piers, arcades, and clearstory are evidently works of 1172. Thus nothing remains of the IX century basilica except possibly the foundations of the eastern transepts. To judge from the few fragments left of Witigowo's building, it must have been a columnar basilica, richly decorated with Byzantinesque ornament. (Adler, 560; Dehio.)

VIENNE, Isère, France. *St. Pierre.* Founded in the VIII century after the Saracen invasion, this church was restored in the IX century, and again about 920. It was subsequently practically rebuilt in 1052, and further alterations were carried out in 1072 and in 1880. The tower and its portal belong to this last restoration of the XIX century; the main piers and arcades of the nave date from one of the two preceding; but the outside walls of the nave, together with the engaged arcade which adorns them, are certainly anterior to the year 1000. The church at present consists of three aisles, all of equal height; it is probable that there was originally over the side aisles a gallery, which was removed in the course of the XI century alterations. (Enlart; Dehio.)

NYMWEGEN, Gelderland, Holland. *Kapelle der Kaiserlichen Pfalzen.* Notwithstanding the alterations of the XII century, the original dispositions of the VIII century church may still be traced. This primitive structure was clearly a close copy of Aachen. The ground plan of Nymwegen is identical with that of Aachen; the only noticeable difference in the superstructure occurs in the triforium gallery, which at Nymwegen is at present covered only by a wooden roof. Nymwegen was consecrated by Leo III in 799, and was partially burned in 1047. (Dehio.)

MUGGIA VECCHIA, Istria, Austria. *Sta. Maria.* There is no external evidence for the date of this church, but Cattaneo assigns it to the IX or X century on the style of the sculptures of the choir screen. It is a three-aisled basilica with a single apse. The aisles are separated by columns and piers, both equally simple in design. The extreme poverty of the decoration, the barbaric crudeness of the construction, and the lack of any signs of organic progress, make it seem probable that this church is anterior to 1000. (Cattaneo.)

MONTIER-EN-DER, Haute-Marne, France. *Abbaye* (Ill. 100) was founded by the Abbé Adso (960–992) and completed by Bérenger, who consecrated the choir in 998. The choir and transept were later rebuilt in the style of the XIII century. However, the lofty nave of the X century church still survives. The three aisles are separated by square piers. The entire nave is singularly bare of ornament, there being not even a capital with carved decoration. (Dehio, 194.)

TOURS, Indre-et-Loire, France. *St. Martin.* (Ill. 93.) This famous church, destroyed in the Revolution, was one of the most important in France. The first building, consecrated in the V century, must have been of mean proportions, for it was soon replaced by a more sumptuous edifice dedicated in 472. This second church was burned in 843;[1] and, since it is known that in 912 the body of the saint was brought

[1] Hugonis Floriacens., *Modernor. regum Francorum actus* a. 843, cit. Schlosser, 280.

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back into the church,[1] it is probable that another new building was completed about that time. This fourth building in turn was destroyed by fire in 997, and a fifth church was consecrated between 1008 and 1017. Burned once more in 1096, the monument was finally rebuilt in the transitional and Gothic styles. Only two towers — one of the west façade, the other belonging to one of the transepts — are extant of this monument. Recent excavations, however, have laid bare the foundations of the choirs of the six different buildings. The foundations of 997 are most remarkable in that they show a fully developed chevet, with ambulatory and five radiating chapels. Below these foundations come to light others, showing also an ambulatory; this second ambulatory was long held to belong to the V century church, but it is now known that it formed part of the building of 912. Even so, it doubtless antedates its only rival, the similar ambulatory of Sto. Stefano, Verona. (Dehio; Ratel; Chevalier.)

PÉRIGUEUX, Dordogne, France. *St. Front.* Some portions of the "Latin Church" of the VI century[2] remain rebuilt in the present edifice. Towards the west end has been found the façade of this building, the narthex which preceded it, and two chapels, commonly called the "confessios." The primitive church, to judge from these remains, seems to have had three aisles. The façade, now hidden by modern walls, was constructed of reticulated work. The nave was covered with a wooden roof, but, strangely enough, the aisles were vaulted with a series of barrel vaults, whose axes were at right angles to the axis of the nave. The tower is variously assigned as contemporary with the Latin Church, or belonging to the XI century. (De Verneilh; Corroyer.)

POLA, Istria, Austria. *Dom.* The style of this monument clearly bespeaks the VI century. The church is a member of that group of buildings which it is difficult to know whether to call Early Christian, Byzantine, or Carolingian. The apse is peculiar in that it is surrounded by a rectangular room divided into three compartments, destined to receive relics of the saints. In modern times the apse has been removed, and the eastern chamber has thus been turned into a prolongation of the nave. The church probably was partially rebuilt in the IX century, since the capitals of the triumphal arch and certain other details seem to be of this date. In the outside wall, used as second-hand material, is an inscription of 857,[3] which was probably embedded in the masonry in the XIV century, when the church was altered in the Gothic style. (Cattaneo.)

VAISON, Vaucluse, France. *Cathédrale.* The apse is said to date from the Merovingian epoch. The church was rebuilt in 910 by the bishop Humbert, and the choir and outside walls of the aisles are believed to date from this time. (Enlart.)

BIELLA, Piedmont, Italy. *Baptistery.* There is no external evidence for the date of this building, which has been assigned on its style to various dates: — to the IX century by Cattaneo, Mella and Dartein; to the last half of the X century by Riv-

[1] *Ibid.*, a. 912, cit. Schlosser, 280.

[2] X century according to Dehio. I have not examined this monument on the spot.

[3] An Incarnat Dni DCCCLVII ind V rege Ludowico Imp Aug in Italia Handegis huius æccæ elec die pente cons eps sed an V.

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oira. The plan consists of a square central area, off which open four semicircular apses. The central area is covered by a dome on squinches, surmounting a clearstory. The dome is concealed externally by a flat roof; the apses are so roofed as to give the building from without the appearance of having a side aisle. The exterior is decorated with corbel-tables and pilaster strips; and it is noteworthy that these pilaster strips are given the function of buttresses on the reëntrant angles. The lantern is modern. (Cattaneo; Rivoira.)

ANGERS, Maine-et-Loire, France. *St. Martin.* There is an unconfirmed tradition that this church was founded by the Empress Hermangarde, wife of Louis the Pious, before 818; but the charter of a donation made to the Chapter of St. Martin, c. 1040, states that the church had been rebuilt after 1000 by Foulques Nerva and his second wife Hildegarde. It is not unlikely the two names Hildegarde and Hermangarde may have been confused. At all events it is certain that works were in progress in 1012, when the body of St. Loup was discovered in the course of alterations. The present edifice seems to date in large part from the XII century; but the four arches which carry the tower, a side portal, and other fragments may be anterior to the year 1000. (Enlart.)

Baptistery is octagonal and very small, having an internal diameter of only 5 meters. It is situated very near to the church of Ste. Maurille, to which it was formerly joined by a short gallery. This disposition and the coarse masonry are believed to indicate a date somewhere in the Carolingian period. (Enlart.)

WÜRZBURG, Unter-Franken, Germany. *Liebfraukapelle auf dem Berge.* There are two rather puzzling texts which may or may not refer to this monument. "Every one knows that he firmly established upon the tomb of martyrs the monastery, which he built on the mountain; and this monastery begun in wooden materials was afterwards reconstructed more carefully in stone, and was consecrated by the high priest of God. Hither the bodies of the saints were brought and placed gloriously in a finely worked sarcophagus."[1] St. Burchard, to whom this passage refers, died about 751. Another passage from the same work states that "on the narrow slope of the mountain often mentioned [*i.e.*, the Marienberg] and in the loop of the Main River he [Burchard] began to found a monastery, which was built in honor of the blessed mother of God and of the apostle Andrew. . . . And he placed in this same basilica with due veneration the body of that martyr of great renown."[2] Consequently if it be to the present monument that these texts refer, the structure must date from the second quarter of the VIII century; the existing edifice, however, could hardly have served as the church of a monastery, and if connected with the foundations referred to in the texts cited

[1] Visum est omnibus ut monasterium quod in monte constituere disponebat, circa sepulturam martyrum . . . potissimum fabricaret; quod et primum de lignea materia initiatum, post haec accuratiori lapidum structura per S. Dei pontificem ad unguem est perductum, ubi et denuo sanctorum corpora relata et in operoso sarcaphago gloriose sunt recondita. — *Vita S. Burchardi episcopi Wirzburg*, c. 7, cit. Schlosser, 132.

[2] . . . in arto proclivi montis sæpedicti et allapsu Mœni fluminis cœpit instituere cœnobium, quod in hon. Dei genetricis s. apostoli Andreæ constructum. . . . Recondidit etiam in eadem basilica digna cum veneratione corpus cuiusdam martyris magni nomine. — *Ibid.*, c. 8, cit. Schlosser, 132.

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above, it must, like the Alte Thurm of Mettlach, have been an outside chapel or a baptistery. The plan, which is strikingly classical, consists of a circular central area supplied with two entrances and three semicircular internal niches. The upper portions have been rebuilt in the XI century, or even later. (Dehio.)

METTLACH, (near Trier), Rheinland, Germany. *Alte Thurm.* (Ill. 91.) The monastery of Mettlach, according to tradition, was founded as early as the VIII century; but in the X century it had fallen into great disrepair. A restoration commenced under the inspiration of Ruotbert of Trier (930–956) seems never to have been competently carried out, for it is stated in a source written about 1070 that "[Bishop Ekbert of Trier (975–993)] tore down the little building which Hezzel had left unfinished, and sending to the palace at Aachen and taking a likeness of that, he built the tower which is still extant."[1] The building is octagonal with a square apse. The lower story has no aisle but is furnished with six semicircular niches; the second story consists of a little triforium gallery built in the thickness of the wall. The resemblance to Aachen is not striking. (Dehio, 150; Enlart.)

GRANDLIEU, Loire Inférieure, France. *St. Philbert.* According to M. Léon Maitre this church is a building entirely of the Carolingian epoch, having been erected in 815 by the monks of Marmoutiers, and enlarged by them in 836 to receive certain relics. The choir and transepts, indeed, are doubtless very ancient; but the nave is constructed of stone courses alternating with bands of brick, its archivolts are in two orders, and its piers are compound; — all of which, as M. Brutails has pointed out, indicates the developed Romanesque style of the XI century. (Enlart.)

PAVIA, Lombardy, Italy. *S. Eusebio.* It is known from a passage in Paulus Warnefridus that this church existed in the time of Rothari, king of the Lombards (636–652), and that it belonged to the Arian cult. This last circumstance makes it probable that the monument had undergone a rebuilding or a radical restoration under Authari (583–590) since that monarch was a zealous promoter of Arianism. At least it is certain that the building which existed in the time of Rothari was not of pre-Lombard construction, since it is inadmissible that before Alboin (568) such degraded art, as is still to be seen in the crypt of this church, could have been produced. This crypt is the only part of the original edifice that has survived; the rest of the church was destroyed in the XVIII century. The crypt is basilican in plan, and is to-day covered with a rib vault — doubtless an addition of the XI century. The most interesting of the capitals have the form of inverted truncated pyramids. (Cattaneo.)

Sta. Maria delle Caccie is a church founded by Epifania, daughter of Ratchis (744–749). Only a small portion of the lateral wall remains, but this is interesting since it contains a window in three orders. (Cattaneo.)

LE MANS, Sarthe, France. *Notre Dame de la Couture*, said to have been founded in the VI century by St. Bertraut, was burned[2] by the Northmen about 842. In 996, a rebuilding took place, and Hugh, Count of Maine, contributed towards the expenses

[1] Domunculum, quam Hezzel imperfectum reliquerat, ab imo eruit et Aquisgrani palatium mittens et exeode similtudinem sumens, turrim quæ adhuc superest erexit. — *Miraculis S. Luitwini*, Mss. in Bibliothek of Trier, printed in Bolland., 29 Sept. cit. Cohausen.

[2] Hugonis Floriacens., *Modernum regum Francorum actus*, a. 843. Cit. Schlosser, 226.

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of this. In the Gothic period (XII–XIV centuries) the monument was largely altered, but the walls of the nave and the ambulatory of the X century structure still survive. The Carolingian church had three aisles, galleries, a transept, and a central tower. The most interesting feature was the fully developed chevet, with ambulatory and radiating chapels, — a feature doubtless copied from the neighboring St. Martin of Tours. (Charles; Enlart.)

VENICE, Venetia, Italy. *S. Ilario* is a most interesting monument, whose foundations have been excavated, but unfortunately have now been covered up again. The church was founded by the doges Agnello and Giustiniano Participazi about 820, on the site of an oratory of the VII century. Portions of walls, part of a mosaic pavement in *opus alexandrinum*, and fragments of sculpture — all doubtless of the IX century — were found in the course of the excavations. The church had the usual basilican plan, the three aisles being separated by columns. There were three apses, each prolonged beyond the semicircle. The outside walls were constructed of herring-bone masonry. (Cattaneo.)

VIEUX-PONT-EN-AUGE, Calvados, France. *Église.* An inscription on a stone of the wall is unfortunately only in part legible. It seems to refer to a certain Ranold (perhaps the count who lived c. 1000?) who appears to have done something to the church. The letters are Carolingian in character. The church itself is very small, with a nave of a single aisle and a square choir. There are no buttresses. Two of the walls of the nave seem to be without question anterior to the XI century. The base of the tower is of another epoch, but perhaps also anterior to c. 1000. The choir is of the XI century, and the portal is modern. The fine tower dates from the end of the XI century. (De la Balle; Ruprich-Robert.)

CAPUA, Campania, Italy. *S. Michele* is assigned on its style to the second half of the X century by Cattaneo. The church is a single-aisled basilica with three apses. The presbytery is raised, and extends some distance into the nave beyond the apses; beneath it is a crypt, reproducing the dispositions of the upper church and covered with vaults supported by a single column. The church must originally have had an eastern portico with two columns, as these may still be seen imbedded in a modern wall. (Cattaneo.)

LA BOURSE, Artois, France. *Église Rurale.* The ornament is even more meager than that of the Basse Œuvre of Beauvais, an edifice with which it is natural to compare this monument. The apse and the base of the central tower are the only portions of the ancient building that still survive. (Enlart.)

MÜNSTER, Grisons, Switzerland. *Ste. Croix* was formerly believed to be a funeral cella of the Early Christian period; it is now, however, generally recognized as a construction of the VII century. This monument probably represents the type of small parish church usually erected in early Carolingian times. (Corroyer.)

QUERQUEVILLE, (near Cherbourg), Manche, France. *Chapelle St. Germain.* This curious little church has often been assigned to a very early epoch, and in fact it can hardly be later than the early years of the XI century, while it may be much older. At present the church consists of a Greek cross, three of whose arms — the choir and transepts — terminate in semicircular apses; but the western portions are

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modern, and the traces of the ancient stone work seem to indicate that the nave also terminated in a semicircular apse. The church thus had originally the form of a quatrefoil.

IVREA, Piedmont, Italy. *Cathedral* was founded or, more probably, rebuilt by the bishop Wermund, as is known from an inscription still preserved in the ambulatory — "Bishop Wermund built this for the Lord from its foundations." It is not known exactly when Wermund lived, but it is probable that he ascended the episcopal throne about 973. The church has evidently been many times altered in the course of the centuries, but considerable fragments of the X century structure still survive. Most interesting is the barrel-vaulted ambulatory which is still in excellent preservation, and which presents a most striking analogy to that of Sto. Stefano, Verona. The original crypt also survives although it has been enlarged at a subsequent epoch; and the campaniles which flank the apse are likewise of the primitive construction. (Rivoira.)

GERNRODE-AM-HARZ, Anhalt, Germany. *Kirche*, founded in 960 and completed before the end of the century, was much rebuilt in the XII century. The original dispositions, however, may still be traced. The church was a three-aisled basilica with transepts, three apses, an interior narthex, and two towers. Both columns and piers were used for supports. In the XII century the present choir was substituted for the original apse. (Mauer; Dehio.)

FULDA, Hessen-Nassau, Germany. *Heil. Michael.* "This temple which that venerable man [Eigil † 882] . . . had built, Heistolfus bishop of Mainz, when he crossed Thuringia, dedicated in the honor of our Lord Jesus Christ, of St. Michael (Christ's archangel), and of the relics." [1] — "Now the abbot with the advice and consent of the brothers, built a small circular church, where the dead bodies of the brothers might be given over to the tomb to rest, and this church they call a cemetery. . . . The part of this building which is underground consists of a passage circulating around a boldly rising central column, from which arches radiate on all sides to the outer wall of the passage; the superstructure is supported by eight columns and is sealed, at the very top of the work, by one stone." [2] — "In the year of the incarnation of the Lord 822, the 15th indiction, this cemetery was dedicated by Heistolfus bishop of Mainz in honor of St. Michael the archangel. . . ." [3] These three texts establish conclusively the date of the original foundation of our monument. Unfortunately a restoration of the XI century has destroyed all except the lower part of the church;

[1] Hoc igitur templum, quod iste vir ven. . . . construxit, Heistolfus Moguntiacensis ecclesiæ præsul Turingea rura transiens dedicavit in hon. Domini nostri Jesu Christi et S. Michaelis archangeli Christi et reliquorum. *V. Eigelis*, c. 21, cit. Schlosser, 99.

[2] Pater namque monasterii . . . cum consilio et fratrum consensu ecclesiam parvam ædificavit rotundam, ubi defuncta corpora fratrum sepulturæ tradita requiescant, quam cemiterium vocant. . . . Cuius etiam ædificii structura sub terram, ubi pervium circuit antrum, ab una columna lapidea in medio posita, arcubus hinc et inde in eamdem compaginata, valenter exsurgit; supra vero octonis subrigitur columnis atque in summitate operis lapide uno concluditur. — *V. Eigilis*, c. 20, cit. Schlosser, 99.

[3] Anno i.d. DCCCXXII ind. XV dedicatum est hoc cymeterium ab Heistolfo archiepiscopo Moguntiacensis . . . in honore S. Michaelis archangeli. . . . — Hrabani, *Carmina*, 42, cit. Schlosser, 99.

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it is still possible, however, to recognize that the original structure was a circular domed building, with an aisle separated from the nave by pilfered columns. The ancient apse was built out to the eastward. (Dehio.)

Salvatorskirche. This monastery was founded by St. Boniface about 744;[1] the church was commenced between 790 and 792,[2] and was consecrated in 818–819.[3] It is known that the name of the master-builder in charge of this VIII century construction was Racholfus and that the church had two crypts and two choirs.[4] This primitive building was destroyed by fire in 947, and underwent various alterations between 1000 and 1130. How much, if any, of the building of 790–819 survives in the present structure, has long been a subject of controversy among archæologists; it seems probable, however, that only the western apse and the crypt can be assigned to this date. (Dehio, 170; Enlart.)

ESSEN-AN-DER-RUHR, Rheinland, Germany. *Münster.* "Altfridus [†874] was buried at Essen in his church, which he himself had begun, finished, and dedicated."[5] In 944 or 946 the church was injured by fire.[6] This fire seems to have totally destroyed the west narthex and the eastern choir, but to have left standing the walls of the nave. At all events, late in the X century new east and west choirs were built, and the western apse was flanked by two chapels. This western choir, which is still extant, consisted in plan of a half hexagon, inscribed with its two towers in a rectangle. To the eastward it opened on the nave by a triumphal arch with Corinthianesque pilasters. The design shows evident imitation of Aachen. (Dehio, 155.)

WERDEN, Rheinland, Germany. *Salvatorskirche.* This monastery was founded in 875; and the church[7] doubtless was built about the same time. In 1059 the crypt was restored; in 1119 there was a fire in which the church was destroyed or, more probably, damaged. The building reconstructed after this fire still exists; and in this structure there remains enough of the church of 875 to establish the fact that the original basilica had transepts provided with eastern apses expressed externally. The aisles of the Carolingian basilica were separated by square piers instead of by columns, and there was probably a western narthex. (Dehio, 164, 193; Enlart.)

INGELHEIM, Hessen, Germany. *Heil. Remigius* was founded by Charlemagne 768–774, but rebuilt by Otto I in the late X century. It was again restored by Frederic I (1152–89). The present structure consists of a single-aisled basilica with a semicircular apse and deeply projecting transepts.

GALLIANO, (near Cantù), Lombardy, Italy. *Pieve di S. Vincenzo* was consecrated in 1007 by Ariberto d' Intimiano. The three aisles terminate in a semi-

[1] *Ann. s. Bonifatii*, a. 744.

[2] *Ibid.*, a. 790; *Ann. breves Fuld.*, a. 792; *Ibid.*, a. 791; *Ann. Lamberti.*

[3] *Ann. antiqui Fuldenses*, a. 819; *Vita S. Eigilis*, c. 16; Hrabani, *Carm.*, 41.

[4] *Vita Eigilis Metrica*, c. 156.

[5] Altfridus Asnede in sua æcclesia quam ipse inchoavit, consummavit, dedicavit, sepultus quievit. — *Chron. Hildesheim.*, c. 4, cit. Schlosser, 37.

[6] *Annal. Colon.*, Monumenta Germaniæ historica, Scriptorum, Vol. I, p. 98; *ibid.*, Vol XVI, p. 731.

[7] *Vita S. Ladgeri episcopi* II, c. 8.

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circular apse, considerably raised to make room for a crypt below. The façade is modern. The side walls are decorated externally with the usual corbel-tables and pilaster strips; the apse is adorned with a number of rows of blind arcades, placed at intervals along its entire height. (Rivoira, 306.)

Baptistery is contemporary with the church, as is proved by a painting now in the atrium of the Biblioteca Ambrosiana at Milan. In this painting Ariberto is represented in the act of offering the church rebuilt by him, while in one corner of the picture the baptistery may be distinguished. The actual building is of the basilican plan with three aisles, gallery, and apse, and is preceded by a narthex. The monument is now entirely vaulted, but these vaults are in all probability a later addition. The central cloistered vault is thoroughly Lombard in style, resting on squinches and being protected by a wooden roof. (Rivoira.)

HEIDELBERG, Baden, Germany. *Heil. Michael auf dem Berge.* "In the year of the incarnation of our Lord 863, Thiodroch was chosen to succeed Eigilbert as abbot. . . . He founded and built the church in Obenheim and the monastery at Heidelberg, and, his course being finished in 12 years, he received the crown of justice (Sept. 14, 875)."[1] As was usually the case, the construction of the church was not begun until some time after the founding of the monastery. Gerhard succeeded from 883–893 as abbot of Lorsch, and it is probable that the basilica of the monastery was built while he was in office, for in 891 donations were sent "as an aid for the basilica which *has been* erected at Heidelberg in honor of St. Michael the Archangel."[2] The church was subsequently rebuilt "from the foundations" by Reginbald, bishop of Speyer (1018–33) and restored by the abbot Oudabric[3] (1056–75). In later times the monastery was abandoned, and the church fell into complete ruin. The foundations were excavated in 1886. It was found that the Carolingian plan had been preserved in all the later rebuildings, and could still be traced, although most of the superstructure, including the western portico and the two western towers, was of later date. The eastern end, however, belongs entirely to the IX century. The original Carolingian building seems to have had three apses, projecting transepts, three aisles separated by piers, an atrium, but no crypt. (Schleunig; Schmitt, 405.)

FRANKFURT, A/M., Hessen-Nassau, Germany. *Salvatorskapelle.* (Ill. 95.) The foundations of the Carolingian basilica have been excavated beneath the present cathedral. This Carolingian church was consecrated in 852 by Rhabanus Maurus, archbishop of Mainz, since, as Grotefend[4] has shown, the following inscription taken from an old manuscript[5] refers to this monument: "In the year of the incarnation of the Lord 852, the 15th indiction, and the 1st day of September, this temple newly constructed by noble King Louis was dedicated by Rhabanus archbishop of Mainz in

[1] Anno dominicæ incarnationis 865 (immo 863) post Eigilbertum Thiodroch abbas subrogatur. . . . Hic ecclesiam in Obbenheim et monasterium in monte Abrahæ fundotenus erexit et XII annis (anno DCCCLXXV, XVIII Oct.) cursu consommato coronam accepit justitiæ. (*Chron. Laur.* in Mon. Germ. Hist., Scriptorum XXI, p. 369.)

[2] This passage is quoted in Latin by Schleunig but without reference as to whence it is taken.

[3] Mon. Germ. Hist., Scriptorum XXI, p. 413.

[4] p. 5, note 2.

[5] Published in Brower, *Antiquitates Fuldenses.*

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honor of the Lord Saviour (that is Jesus Christ), of St. Mary ever virgin, and of the twelve holy apostles."[1] The church is further mentioned in documents of 880, 881, and 882.[2] In 1238 the ancient basilica was doubtless pulled down to make room for the present edifice, as there is extant a bull of Gregory IX of this date, offering indulgences to those who would contribute to rebuild the edifice. The plan as excavated shows a "T-formed" basilica with three apses, the side ones of which were probably surmounted by bell towers. There seem in addition to have been two other towers placed at the west end. The nave was five bays long, and the three aisles were separated by columns. The transepts projected but slightly. (Schleunig; Schmitt.)

CIMITILE, [near Nola], Campania, Italy. *S. Felice* was built, according to the inscription, by Bishop Leo III in the early VII century. Of this church only the porch remains and that in fragments. These broken pieces, however, are interesting both in themselves and as showing the first step in the evolution of the Lombard porch. The decoration is well executed and strongly Byzantine in character. This monument is an excellent example of the Renaissance which occurred in Italy in the early VII century. (Cattaneo.)

BENEVENTO, Campania, Italy. *Sta. Sofia* was founded in 774 by Arrichis, and is a most extraordinary edifice. An hexagonal nave (covered with a modern dome) is surrounded by two aisles; the inner of these is roofed with domes, often elliptical in form, alternating with triangular groined vaults; the outer is covered entirely with groin vaults. To the east is a rectangular apse, to the west the aisles are prolonged lengthwise into a sort of portico, forming a flat west end, much wider than the central part of the church. The columns are of the Corinthian order and pilfered. (Dehio.)

Other Monuments

KOBLENZ, Rheinland, Germany. *Heil. Kastor* was built by Bishop Hetti of Trier and consecrated in 836 as is known from the following text: " . . . in the twenty-third year of Louis the Emperor, [Bishop Hetti] brought the body of St. Castor from the place which is called Karden-on-the-Moselle to Koblenz, to the monastery which he himself had built; and on the 9th of December he consecrated the monastery in honor of St. Castor and of all the saints, and after the consecration he buried the holy body in the church."[3] This church of Bishop Hetti was destroyed by the Normans in 882, and was apparently again burnt and rebuilt in the XI cen-

[1] Anno dominicæ incarnationis DCCCLII indictione XV mense Septembri prima die mensis hoc templum a Hludovico nobilissimo rege noviter constructum est et dedicatum per Hrabanum Maguntiacensis ecclesiæ antistitem in honorem S. Salvatoris domini videlicet Jesu Christi et S. Mariæ semper virginis et Ss. XII apostolorum.

[2] Mss. in Kloster St. Maximin in Trier.

[3] . . . in XXIII anno Ludovici imp. apportavit corpus S. Castoris de loco qui vocatur Cardena ad Confluentiam ad monasterium quod ipse construxerat et V die Id. Dec. consecravit in honore S. Castoris et omnium confessorum et post consecrationem S. corpus in ecclesia recondidit. — *Gesta Treverorum*, c. 15, Hetti episcopus ord. 814 (?), cit. Schlosser, 42. Cf. also Zusatz des Cod. Vindob. zu Thegan, *Vita Hlodowici*, Mon. Germ. Hist., Scriptorum II, 603, cit. Schlosser, 43.

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tury. Of this last building the lower stories of the west towers remain. Of the earlier buildings some fragments survive. (Lehfelt, 142; Dehio.)

ÎLE ST. HONORAT DE LÉRINS, Alpes Maritimes, France. *Chapelle de la Trinité.* There is no documentary evidence for the date of this church, which, however, Corroyer assigns to the VII or VIII century. The monument is constructed of regular blocks, carelessly placed, and is absolutely without decoration or mouldings of any kind. The design consists of a small square nave (17′ × 17′) covered with a barrel vault and ending in an apse. Over the crossing is a dome on pendentives. All this, I should suspect (without, however, an examination on the spot), indicates a date later than 1000. (Corroyer.)

COMO, Lombardy, Italy. *S. Fedele* was founded in 914. According to Dehio, parts of the original circular church remain, forming the curved transept ends of the present edifice. Neither Cattaneo nor Rivoira, however, include this monument in their list of edifices anterior to 1000. On analogy with S. Lorenzo of Milan, the primitive church is commonly restored as consisting of a quadrangular domed central area with columnated niches opening off of it.

S. Abondio. In a recent restoration many sculptures belonging to an ancient presbytery were found built into the present walls. Cattaneo assigns these fragments to the IX century on their style.

GRENOBLE, Isère, France. *Chapelle St. Laurent.* The crypt is the most ancient part of the existing edifice, and probably dates from early in the IX century.[1] The plan of this crypt consists of a nave terminated at the west by three apses, and towards the east by a great niche as large as the apse it faces. The barrel vault rests on pilfered columns. The walls, which are constructed of alternate courses of brick and rubble, were originally covered with stucco. (Archives de la Com. des Monuments Historiques IV, 5.)

AUXERRE, Yonne, France. *St. Germain.* This monastery is said to have been founded as early as the V century.[2] The most important text bearing on its history is the following: "The work having been finished and everything appertaining to the decoration completed, . . . the most holy body of St. Germain . . . was translated into the crypt, — a receptacle worthy of so great a treasure. This was accomplished in the year of our Lord, 841 . . . But in the year of the incarnation of the Lord, 859 . . . the same basilica was enlarged and decorated with beautiful crypts, as has been above set forth, and the tomb of our often mentioned father was moved anew from the place of its first translation, to the repository mentioned above, prepared with new and toilful diligence."[3] The church itself was destroyed by fire

[1] Although M. Enlart speaks of this church as "un ensemble du 7me siècle."

[2] More precisely in 418. Leclerc, 3.

[3] Perfecto opere cunctisque decorem prætendentibus consummatis sanctiss. . . . corpus b. Germani in cryptum tanto condignam thesauro . . . translatum est. . . . Actum est hoc a. Dei hominis facti 841. . . . At a. eiusdem verbi incarnati 859 . . . amplificata eadem basilica, cryptarumque, ut supra digestum est, pulchritudine decorata sæpedicti . . . patris nostri ss. mausoleum a loco primariæ translationis denuo summotum est, ad conditorium supra scriptum, nova operosaque præparatum diligentia. — *Heirici miracula s. Germani Autissiod. episcopi* II, 6, cit. Schlosser, 189.

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two hundred years later, and has undergone several reconstructions, the last in the XIV century; but the crypt, despite numerous restorations, still dates mainly from the IX century. (Enlart.)

BINGEN, Hessen, Germany. *Kapelle.* "[Bertha] . . . went to another place, situated on the Nahe, (where now rest the relics of herself and of St. Robert), and there she built a church."[1] Bertha and Robert lived in the IX century. It is possible that the Carolingian church built by Bertha still exists in the plain Romanesque chapel under the old Roman bridge over the Nahe.

KÖLN, (Cologne), Rheinland, Germany. *St. Pantaleon.* The archbishop Bruno, brother of Otto I, was buried in this church in 965; the consecration, however, did not take place until 980. The nave was rebuilt in the XII century, the choir in the XIII. To the X century building probably belong some parts of the present eastern transepts, and the western end of the edifice. It is believed that the original building had double transepts. (Dehio, 175.)

Heil. Maria im Capitol was founded about 700, but none of the present edifice antedates 1000. (Dehio.)

JOUARRE, Seine-et-Oise, France. *Crypt* is a remnant of the abbey founded in 628 by St. Adon, and endowed by Ste. Batilde († 660). This original crypt of St. Paul was subsequently considerably enlarged by the addition of a second crypt dedicated to St. Ebrégisile, which was probably built about 847, when secular clergy were installed to take the place of the monks who had formerly lived here in company with the nuns. The crypt of St. Ebrégisile extends under the side aisle of the church, which was also probably added at this time. When a chapter of cannons was installed in the XI century, the crypt of St. Paul was enlarged at the west end, and in other ways considerably altered. (Enlart.)

ST. QUENTIN, Aisne, France. *Église Cathédrale.* The present crypt seems to be a remnant of the church that was built by the abbot Fouré, grandson of Charles Martel. This edifice, it is known, was begun in 816, finished in 824, and consecrated in 835. It was burned by the Normans in 883 and restored in 888. The pavement belonging to this or a still earlier church has recently been excavated below the present Gothic structure. (Gomart; Enlart.)

LYON, Rhône, France. *Église St. Martin d'Ainay.* This church was founded in the V century. The present edifice, however, seems to date entirely from the XI century, although it has often been ascribed to the X century.[2] One doorway in the church may possibly, however, be older, and the crypt under the Chapelle Ste. Blandine is said to be as early as the V century (?). (Maitre.)

St. Nizier. This church, formerly dedicated to St. Pothin, was rebuilt in 580. The dedication was changed shortly after the death of St. Nizier in 573. Some traces of the VI century edifices are said to survive in the crypt of the present church. (Maitre.)

[1] [Bertha] . . . ad alium locum scilicet super Naham situm (in quo nunc reliquiæ ipsius et b. Roberti requiescunt) se contulit, ibique ecclesiam ædificavit. — *Vita s. Ruperti*, etc., c. 3, cit. Schlosser.

[2] By Thiollier, Steyert, etc.

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OTHER MONUMENTS

St. Irénée, crypt of St. Just. There is much controversy as to how much of this rather unimportant monument belongs to the Early Christian and Carolingian eras, and how much is due to later alterations. M. Steyert assigns it mainly to the VIII or IX century. The present church of St. Irénée dates from the XI century and is built on a totally different site. (Maitre.)

PADUA, Venetia Italy. *Baptistery of Sta. Giustina.* The date of this monument is quite uncertain. The building is of cruciform plan, and the quadrangular central space is surmounted by an octagonal cloistered vault. The transition from square to octagon is managed by squinches. (Dehio.)

BÉZIERS, Hérault, France. *Ste. Aphrodise* is a church thoroughly Early Christian in its dispositions. A restoration was carried out in the X century, and the present structure is believed to date from this time. (Dehio, 254.)

BAPTESTE, Lot-et-Garonne, France. *Baptistery* is said to date from the Carolingian era. The monument is octagonal internally, square without, and joined by a narthex to the eastern apse of a little trefoiled church. (Enlart.)

VALLE DI SUSA, Piedmont, Italy. *S. Ambrogio ai Piedi della Sagra di S. Michele.* The foundations of the campanile are ascribed to Giovanni da Pavia, who is believed to have erected a church on this site shortly before he became archbishop of Ravenna in 983. (Rivoira.)

VITERBO, Roma, Italy. *Sta. Maria della Cella.* The campanile, at present built into a wall, is ascribed to the IX century by Rivoira. There are two round-headed windows on each face of the top story.

ISSOUDUN, Indre, France. *L'Ancienne Chapelle du Château.* This chapel, placed at the foot of the donjon, retains of the Carolingian period an apse flanked by two square compartments. (Enlart.)

BLEIDENSTADT, (near Wiesbaden), Hessen-Nassau, Germany. *Kirche* was founded in 812 by Riculf.[1] Herr Will sees in the present edifice this church of 812, but the identification is very questionable.

CHAMALIÈRES, (near Clermont), Puy-de-Dôme, France. *Église* is attributed to the X century by M. du Ranquet. The interior, constructed of granite, has unhappily been covered with plaster imitating the color of this stone.

CONSTANCE, Constance, Germany. *S. Mauritiuskapelle am Dome.* This chapel retains a single circular wall built by the Bishop Konrad († 976). The vault is of the XV century. (Dehio.)

PEYRUSSE-GRANDE, Gers, France. *Église.* Although restored in the XI century, this monument offers certain analogies to Germigny-les-Prés. The geometrical ornament is said to have a strikingly Carolingian character. (Enlart.)

NANTES, Loire-Inférieure, France. *St. Similien.* The substructions of an ancient basilica, excavated beneath the present church, probably date from the Merovingian era. (Enlart.)

HELMSTEDT, Braunschweig, Germany. *Kapelle*, in two stories. This mon-

[1] Tituli sæculi IX, No. 11, in Mon. Germ. Hist., Poetæ Latini I, 431; Hrabani, *Carm.*, 70; Mæginhardi; cit. Schlosser, 37.

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ument, dedicated to the saints Peter and John, is said to date from as early as the IX century. (Enlart.)

ν ALET, Ille-et-Vilaine, France. *Ruins* seem to be the remains of a basilica with double choir but no transepts. The foundations may not improbably date from the VI century. (Dehio.)

ν ST. LUBIN, France. *Église.* Beneath the clocher are some arcades which may date from the Carolingian era. (Enlart.)

ν VALENCE, Drôme, France. *Église.* Nothing survives except the foundations, which show that the church had three apses and projecting transepts. The date is entirely uncertain. (Dehio.)

JUMIÈGES, Seine-Inférieure, France. *St. Pierre* is a little church forming part of the famous abbey. The western part is said to date from 936. (Enlart.)

LANGON, Ille-et-Vilaine, France. *Chapelle Ste. Agathe.* A church built of rubble and probably of early date. (Enlart.)

ν COURCÔME, Anjou, France. *Church.* Parts are said to date from the Merovingian era. (Enlart.)

VALCABRÈRE, Haute-Garonne, France. *Church.* The choir seems anterior to the year 1000. (Enlart.)

CLEPPÉ, Loire, France. *Church.* The nave, much rebuilt, may be attributed to the X century. (Enlart.)

SUÈVRES, Loire-et-Cher, France. *St. Christophe* is said to date from the Carolingian era. (Enlart.)

CHARTRES, Eure-et-Loire, France. *L'Hôpital St. Brice.* The church retains some fragments which are said to date from 962.

GOURGE, Deux-Sèvres, France. *Church* was erected, it is said, between 889 and 942. (Enlart.)

VOUTEGON, Maine-et-Loire, France. *Church.* One of the side walls seems to be of the Carolingian era. (Enlart.)

ST.-VINCENT-SUR-RISLE, Dordogne, France. *Church* may date from the VIII century. (Enlart.)

ST. MAXIMIEN, Var, France. *Two crypts* said to be of the Merovingian era. (Enlart.)

SELOMNES, Nièvre, France. *Church* of the Carolingian era. (Enlart.)

GENNES, Maine-et-Loire, France. *St. Eusèbe* is in part very ancient. (Enlart.)

St. Vétérin is largely of the Carolingian era. (Enlart.)

DISTRÉ, Maine-et-Loire, France. *Église Rurale.*

Carolingian remains may also be found in the *Cathédrale St. Bénique* of DIJON (Côte-d'Or, France), at CHANCEAUX (Indre-et-Loire, France), at *St. Mesme* of CHINON (Indre-et-Loire, France), at CHÂTILLON-SUR-THONET (Maine-et-Loire, France), at SAVENIÈRES (Maine-et-Loire, France), at VIGNORY (Haute-Marne, France), in the *Cathedral* of NOVARA (Piedmont, Italy), at BONN (Rheinland, Germany), in *St. Stephen* of MAINZ (Hessen, Germany).

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CHAPTER V

LOMBARD ARCHITECTURE

UNFORTUNATELY, the precise order of the final steps by which the basilica was converted into an organic vaulted structure is by no means clear. The Lombard period presents a poverty of dated monuments and a confusion of chronological sequence hardly equaled elsewhere in architectural history. And yet, however puzzling the details, the main course of development is clear enough.

It is natural to suppose that the first attempts at vaulting were made in the aisles. We have seen that transverse arches were here first tried, before being applied on a larger scale to the nave, and we find almost all the other Romanesque schools of Europe developing experimentally in the aisles the systems of construction that were later triumphantly applied to the main body of the church. Where and when in Lombardy the idea of vaulting the aisles was first conceived, will probably never be known, since the early instances of this construction seem to have all perished. Only two examples of groin-vaulted aisles with wooden-roofed nave have come down to us: the first, S. Fidele of Como, is usually assigned to the XII century; the second, the later additions to that same church of S. Celso at Milan (Ill. 102), whose earlier portions we have already studied, may, perhaps, be of the second half of the XI century. The little single-aisled church of Vaprio furnishes an example of groin vaults with transverse ribs that may date from anywhere in the XI century. These monuments, however late, undoubtedly perpetuate a type of church (Ill. 101, Fig. 5) which was current in Lombardy probably in the very early years of the XI century, just as the churches of Verona in the XII century perpetuate that type of basilica with transverse arches that had been developed at Milan in the X century.

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Hence we may assume the employment of groin vaults between the transverse arches in the aisles as the first step in the evolution of the rib vault. The introduction of these vaults necessitated several structural changes. Since the groin vault is best constructed on a square plan, transverse arches were thrown across the aisles from every support, instead of from every alternate pier (Ill. 101, Fig. 5), making thus twice as many transverse arches across the aisles as across the nave. Provided that the side aisles were one-half as wide as the nave, this device enabled the architect to divide both nave and aisles into exactly square compartments.

The intermediate transverse arches of the aisle, falling on the intermediate (light) supports, would naturally require a compound pier (in place of the old square pier) to carry their archivolts. Still, this pier, having less load to carry, would logically be lighter than the alternate (heavy) pier. After the piers had been thus constructed, the architect was ready to place groin vaults in the square compartments of his aisles. An imaginary plan of this type is shown in Ill. 101, Fig. 5.

Transverse arches were found to be of great practical convenience in the construction of groin vaults. By means of these arches it became possible to erect groin vaults without the use of a centering as long as the entire space to be vaulted, such as would otherwise be required; for the transverse arches, as has just been shown, were made to divide the aisle into square compartments, and each of these compartments could be vaulted separately, the same centering being then removed for use in the next. It therefore occurred to the Lombard builders that, instead of concealing these arches — or ribs as we may now call them — in the surface of a flat vault, they should let them project beyond the surface, showing plainly what they were, and the important function they played in the construction of the vault.[1] These ribs thus placed below the under surface of the vault, offered a convenient ledge — a sort of permanent centering — on which to rest the vault surface. Beside this structural advantage, the exposed ribs also preserved the decorative effect

[1] Groin vaults with transverse ribs had already been discovered and utilized by the builders of Aachen and Hagia Sophia.

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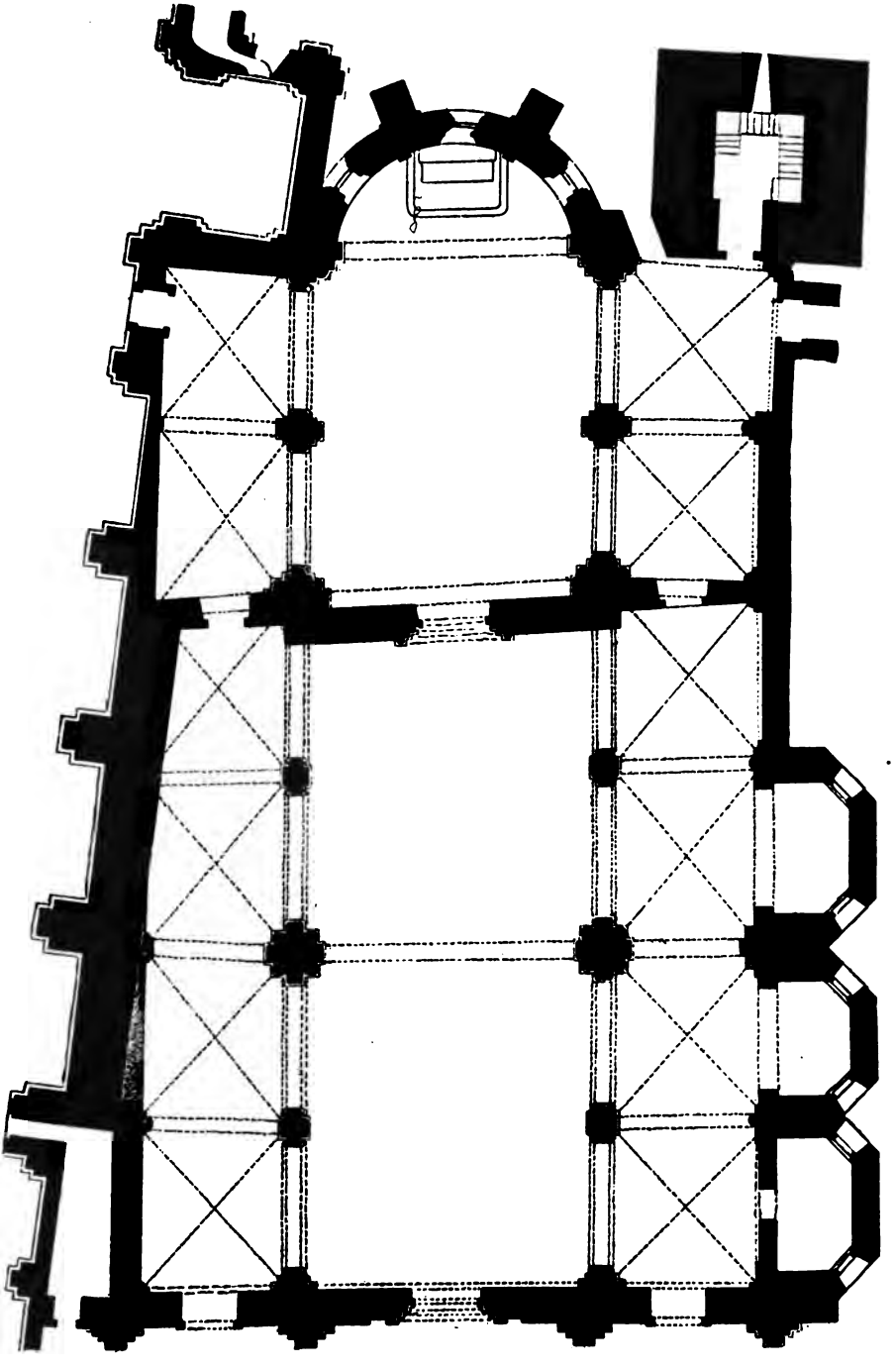

ILL. 102. — Plan of S. Celso, Milan. (From Dartein)

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of the old transverse arches. The new construction was therefore advantageous for both practical and esthetic reasons.

In our study of Roman construction we have seen that the groins of a groin vault were often constructed first; that they were self-sustaining arches, meeting in a common keystone; and that once built the vault was divided into four equal compartments, the vaults of each of which could be erected by the use of the same centering. Now it occurred to the Lombards to treat these groin arches in precisely the same manner that they had already treated the transverse arches, that is, to let them project from the surface of the vault. This done, the groin became a rib — called *diagonal* to distinguish it from the transverse rib; and by such easy stages perhaps the greatest of all the inventions of medieval architecture came into being (Ill. 101, Fig. 6, Ill. 104, 119).

The Lombard rib vault offers a certain peculiarity that it is important to notice. The vault rests on six arches, designated in Fig. 10 (Ill. 101) by the letters *a*, *b*, *c*, *d*, *e*, and *f*. It is obvious that four of these arches, *a*, *b*, *c*, and *d* have equal bases, and that semicircular arches erected on these bases would all rise to the same height (these arches are shown in elevation at *a'*, *b'*, *c'*, *d'*). It is equally evident that the bases of the arches *e* and *f* are greater than those of the arches *a*, *b*, *c*, and *d*; and that semicircular arches (*e'*) erected on these bases would rise considerably higher than those erected on the bases *a*, *b*, *c*, or *d*, — that is, the crown of the vault (at the intersection of the diagonal ribs) would be higher than the crowns of the arches *a*, *b*, *c*, or *d*, and the ridge of the vault would not be horizontal, but would rise and fall, producing a warped (*i.e.*, non-geometrical) surface between the different ribs. The Romans had avoided the difficulty by depressing the arches *e* and *f* into ellipses, whose crown was exactly on a level with those of *a*, *b*, *c*, and *d* (Ill. 101, Fig. 13); the Lombards retained the semicircular diagonals, giving their rib vaults thus a little the appearance of domes, and creating those warped surfaces which were to be the glory of the Gothic vault. (Ill. 101, Fig. 11, 12.)

One immediate effect of the introduction of the ribbed vault is noteworthy. It was necessary to provide supports for the

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diagonal as well as for the transverse ribs. To accomplish this, new members, known as *diagonal shafts*, were added to the compound piers to carry these ribs. As it was found that these shafts grouped around the main pier gave a decidedly decorative effect, in time there came also to be applied to the piers members not required to support ribs and quite unmeaning structurally — extra orders, as they are called, added merely to give grace and lightness to the design of the interior. In English Gothic, this idea was later carried to an extreme, but in Lombard architecture it was used extensively only in the four great piers of the crossing (Ill. 103, 104).

Extra orders were introduced also in the archivolts (Ill. 104, 119). In the Carolingian period the classical custom of moulding the archivolt had passed away, and the resulting plain rectangular section produced an effect unduly heavy and severe. Hence arose the usage of stepping the archivolt, or breaking it into several orders, all of rectangular section — an innovation that was decorative rather than structural in its inception. It had its structural results, however, in that the support had to be adapted to the new section, and this was usually accomplished by adding to the piers additional members, which continued the orders to the ground.

The exact time at which these various improvements were made it is impossible to state with precision. According to Comm. Rivoira, who speaks very convincingly, the rib vault was introduced in the aisles of the non-basilican church of S. Flaviano at Montefiascone[1] in Umbria — a building erected in the year 1032, as is known from an inscription still extant. If these vaults are really a part of the original construction, they must certainly be considered the earliest rib vaults known, although it is a little surprising to find them so far to the south, in a district belonging rather to the Tuscan than the Lombard school, and one noted throughout the Romanesque period for its lack of structural progress.

At all events, we may assume that about this time rib-vaulted aisles came into use, and that there ensued twenty or thirty years of hesitation and experiment before any attempt

[1] I have not had the opportunity of examining this important monument on the spot.

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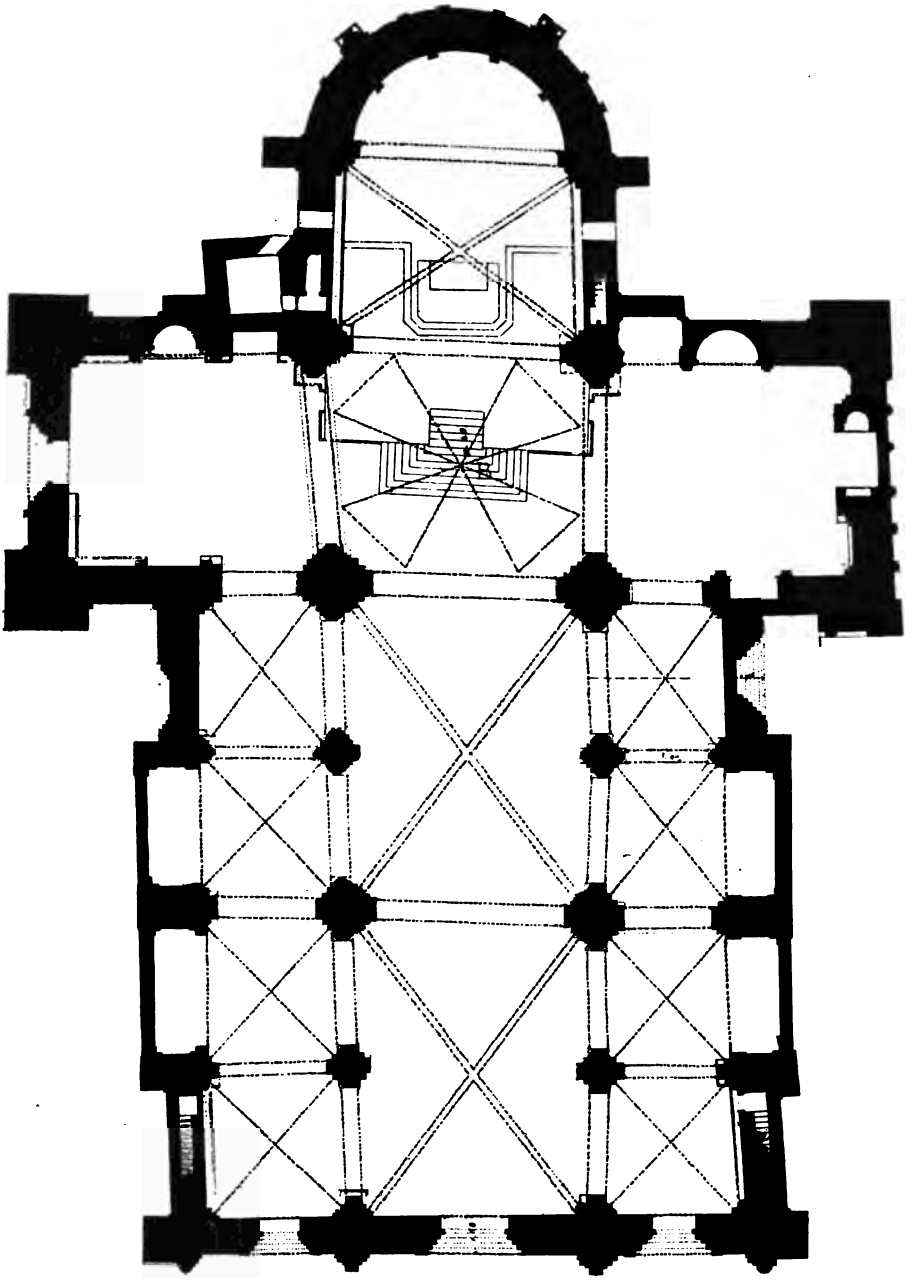

ILL. 103. — Plan of S. Michele, Pavia. (From Dartein)

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was made to vault the main body of the church. A large vault is not easy to build, especially for unskilled workmen, and in all the Romanesque schools we find the same period of timidity and hesitation before the vault was finally thrown across the nave. The single-aisled church of S. Nazzaro Maggiore, Milan, which seems to have been rebuilt immediately after a fire in 1073, was undoubtedly planned from the foundations for a rib vault. It may, therefore, be held as established that rib-vaulted naves were in use by 1075. The famous nave of S. Ambrogio, Milan, probably dates from about this time. That this was one of the earlier vaulted naves to be erected is shown by the fact that the builders had not yet acquired sufficient skill to dare to raise their vault on a clearstory. This feature is consequently omitted and the main vault is buttressed by the vaults of the triforium galleries (Ill. 92, 106, 119).

At this point progress in the Lombard style suddenly stops. A few — very few — churches of the type of S. Ambrogio were erected during the last years of the XI and in the early XII centuries.[1] None of these examples shows any notable progress, except that in some of the later ones the vaults were raised on a diminutive clearstory. After this brief existence, the rib vault, which had promised so much, was brusquely abandoned.

The reason for the brilliant entry of north Italy on the stage of medieval architecture and for the subsequent anti-climax and collapse of its progress, must be sought in the purely external historical events of the time. The story of Italy in the XI and XII centuries is divided into two sharp halves by the year 1076 — the year in which opened the death-struggle of Empire and Papacy.

Before that year there had been an era of comparative peace for the troubled cities of Lombardy. The XI century was a time of increased prosperity and economic advance throughout Europe. Civilization had begun to awaken from the long sleep of the Dark Ages; men began to be conscious, though dimly, of the possibility of advance and progress. Besides sharing in these impulses which were common to all Europe, Lombardy

[1] S. Eustorgio of Milan (probably), S. Giorgio al Palazzo, Milan (1129), Sta. Sofia of Padua (1123), and S. Michele of Pavia (XII century).

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in the XI century was awakened to extraordinary consciousness of her own powers and possibilities by the political circumstances in which she found herself placed. She was far removed from the seat of power of the German emperor. This geographical situation necessarily tended to increase the local power of the Lombard cities, since it was impossible for the central authority to keep strict watch over them. Hence there grew up a strong feeling of local patriotism which resulted in each city becoming practically a self-governing state, under the leadership of the count-bishop. At intervals, it is true, the German emperor would descend on the peninsula with a great army. Instantly all was at his mercy. He brought the count-bishops into strict subjection, reorganized the government, punished the rebellious citizens, reduced the disobedient cities to ashes. But no sooner had the last German banner disappeared over the Alpine passes than the whole country again relapsed into semi-independence.

Thus in the long run the Empire proved utterly unable to cope with the unruly Lombard towns. Had the latter been able to forget their local jealousies and come together into a united confederacy, they would doubtless have been able to form a strong and independent state. Attempts made in 1002 and 1014 to accomplish this end, however, resulted in wretched failure, and, although in the XII century a loose confederacy was formed, the Lombard cities remained to the end virtually independent states.

If the dawning sense of patriotism found no outlet in national channels, it turned instead with double vigor to civic activities. The quasi-independent city states of northern Italy rose with extraordinary rapidity to political prominence; trade and commerce flourished; wealth was vastly increased. The quickened intellectual life, the feeling of civic pride, increased national prosperity, comparative peace — all these are reflected in the buildings of the XI century.

But in 1076 began the momentous struggle of Empire and Papacy. It is not necessary to follow the details of the investiture contest through its melodramatic scenes at Canossa in 1077, and its frequent vicissitudes of fortune, to its final close by the

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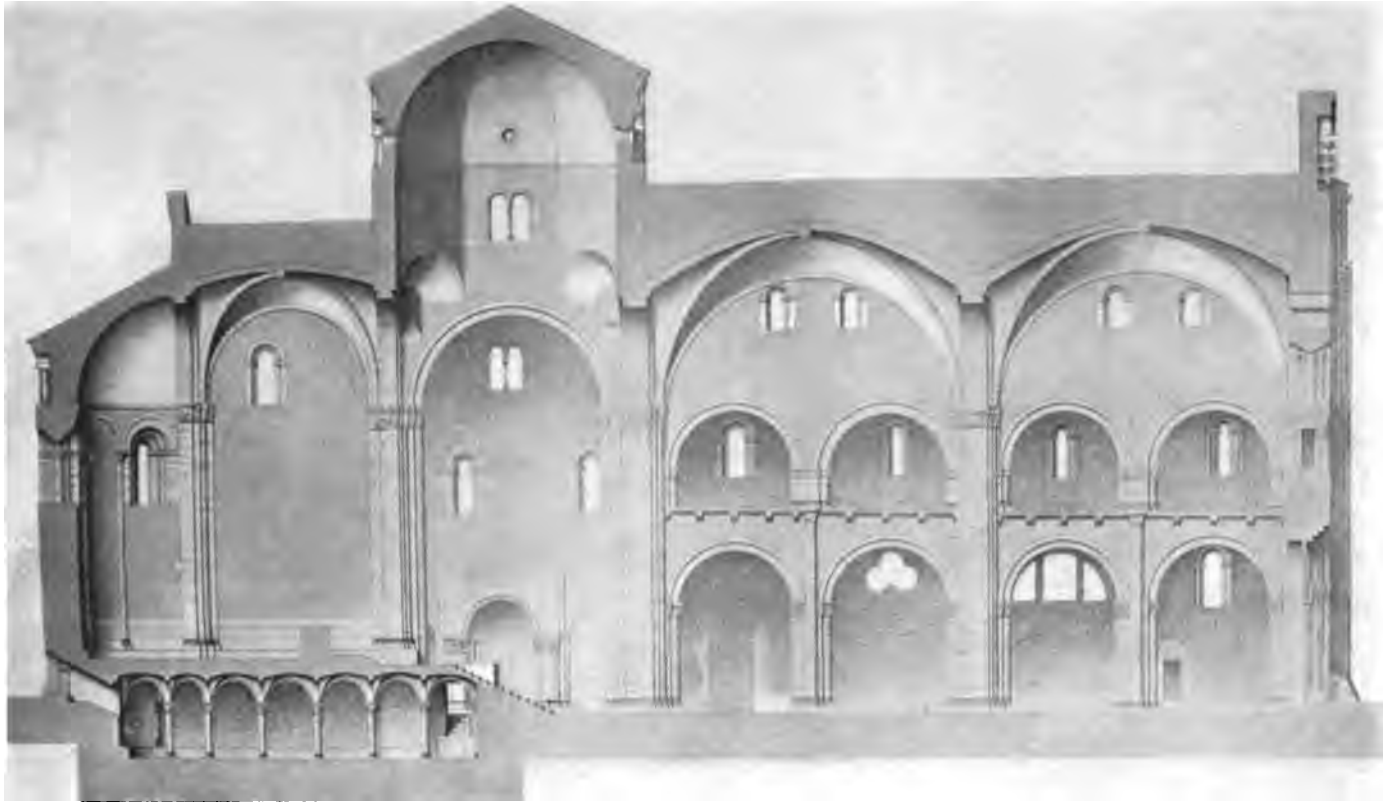

Ill. 104. Longitudinal Section of S. Michele, Pavia. (From Dartein)

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Concordat of Worms in 1122. For the history of architecture the significant thing about this struggle is the fact that, although ending in a nominal compromise, it was, in the main, a losing struggle for the Empire. Consequently it was a losing struggle for the Lombard cities, which generally threw in their lot with the Imperial party. Not that they had any cause to love the Germans, but from this moment the states of Italy begin that shifting, juggling policy which was to remain for so many centuries their characteristic and their bane. Caught in the whirl between two great powers, where they could not hope to maintain their existence by force of arms, their only hope was to play one rival off against the other by means of diplomacy, to join now one side, now the other, as political advantage served.

The struggle of Empire and Papacy made of Lombardy the battle-ground of the great opposing forces of history, and, although in the investiture contest the suffering entailed by actual battles and the support of great armies in the field was probably not great enough to account altogether for the decadence of architecture, it undoubtedly had its effect. The Concordat of Worms (1122) seems to have been followed by a marked revival of building activity. This fact shows that the great struggle of the age distracted to no inconsiderable extent the energies and resources of the Lombards from building.

Even more effective than the hazards of war and politics in causing the decline of architecture, was the peculiar relationship in which the Lombard cities found themselves in regard to the pope. The pope was the head of the Christian religion, the vicar of God upon earth. Yet the Lombards found in him a most dangerous neighbor, a temporal power that they must regard at times as their arch enemy, at times as convenient cat's paw to be played off against the emperor with cynical diplomacy. Such a state of affairs was not calculated to foster the growth of that religious mysticism and enthusiasm that affected the rest of Europe so strongly about this time. The dominant interest became political and practical, distinctly non-religious. Trade and commerce absorbed an increasing amount of attention, and next to political intrigue commercial interests came to

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the fore. The effect on architecture was much the same as similar interests have produced in our own day. Only, in the XI century, monumental building was almost exclusively confined to churches; there were no banks or sky-scrapers or even palaces in which it might express itself. Hence it resulted that Lombard architecture dropped behind the other schools of Europe and followed where it formerly had led.

Several other causes contributed to dampen the ardor of the Lombards for building churches. Not only were the cities at war against the head of the universal Church at Rome, but they were many of them at war with their own bishop. As the cities increased in power, the *bourgeoisie* had risen against the authority of the count-bishop, and eventually in almost every case had succeeded in overturning it. The struggle, however, was long and bitter. The democracy, when it finally triumphed, was accordingly little inclined in any way to aid its great enemy or to increase his glory by shouldering the expenses of building a splendid cathedral. In Italy the monasteries were not powerful or popular enough to step in the gap and absorb for the construction of the abbey the resources diverted from the cathedral, as in similar cases they did in the North. Consequently, when the bishops, beaten in their fight against the communes, became too weak and too poor to undertake great building schemes, there was no one left to erect large churches. Thus enthusiasm for architecture was frosted in Lombardy, and never — except in the Gothic period, and then in direct imitation of northern countries — did the Lombards construct churches of more than very moderate costliness.

The peculiar situation of the Milanese Church tended to increase this lack of enthusiasm for religion among the Lombards, and to throw them out of sympathy with the ideas current at this time in the rest of Europe. The bishop of Milan had from the earliest times been jealous of the authority of Rome, even on more than one occasion presuming to set up his power in rivalry with the see of St. Peter. The ritual of the Church of Milan differed from that of Rome in points trivial, it is true, but for that reason considered none the less important by the medieval mind. This divergence tended to throw Milan, and

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ILL. 105. — Side Elevation, S. Michele, Pavia. (From Dartein)

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consequently all Lombardy, out of touch with the reforming tendencies so much in vogue at Rome.

Nevertheless, however hostile to Rome, the Lombard people could not but view with disgust the degradation of the local clergy, who had fallen to a depth of corruption almost unparalleled even in X century Europe. The three opposing forces — pope, bishop, and *bourgeoisie* — were all brought into collision in 1045. A part of the people called the "Pataria" or "ragamuffins" advanced certain new ideas. These ideas, many of which were certainly heretical, included a program for the thorough reform of the clergy. The bishop Aribo, hostile quite as much to reform as to heresy, held a strict inquisition, and proceeded to burn many members of the "Pataria" as heretics. But at this moment, the pope was shrewd enough to see his advantage in intervening and supporting the heretics against the bishop. In the long run the honors of victory remained with the popular party.

Thus, through all the confusion of the tangled period, it becomes evident that the *bourgeoisie* was the element that was gradually gaining the upper hand, and that the *bourgeoisie* was either indifferent, or actually hostile, to the episcopal power and its expression in architecture. It is probably primarily owing to this fact that building in Lombardy was pursued in so half-hearted a manner during the XII century.

After 1122 ensued a truce in the war of the Empire and Papacy — a truce during which the principal contestants were gathering force to renew the conflict, while the city states of Italy indulged in constant bickerings and even war among themselves. The period is marked by the rise of the great rival parties of Guelf and Ghibelline — names in which are summed up so many civil wars and so much hatred and suffering. Under Barbarossa (1152–1189) began the final struggle of pope and emperor, and this ended at last in the complete defeat of the latter. The Lombard cities, united in the Lombard League against a common enemy, now espoused the cause of the pope, and the battle of Legnano (1176) assured the triumph of the cities.

It is interesting to note how accurately the political condi-

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tion of the Lombard communes at this period is expressed in their architecture. As each city formed a separate state, with local government and institutions, so each city had its own peculiar and well-defined school of architecture. And yet these local schools are all bound together by certain common characteristics into a whole clearly distinguished from all other Romanesque schools, just as the separate cities banded together in the Lombard League. The first and most important of these schools is that which flourished at Milan and Pavia. It was here that were made all those important structural advances that were destined to play so great a part in the development of Gothic; it was here that almost all the characteristics of the Lombard style came into being.

From Milan and Pavia radiated influences, which, meeting with others purely local, or imported from abroad, gave birth to the other Lombard schools. That of Como, perhaps the second in importance, shows strongly this Milanese influence in its decoration. But Como shook off only reluctantly Carolingian tradition, and, until the Gothic period, never cordially adopted the vaulted church. Hence it is only exceptionally that we find here the alternate system, compound piers, or rib vaults; the old columnar basilica remained the typical form of church building, but was enriched with all the exuberance of Lombard ornament. From the Carolingian monuments across the Alps came the doubled campaniles, which, attached to the church, flanked now the apse,[1] now the façade.[2]

Verona was another important architectural center. Although the monuments of this school that have come down to us are for the most part late in date, they seem, curiously enough, to have adopted as their own that peculiar phase of development through which the architecture of Milan had passed long before — a phase characterized by the use of the alternating system with transverse arches, and a wooden roof. The vault never seems to have been attempted in this school. Verona, however, has the distinction of being the center and probably the home of the so-called Lombard porch [3] (Ill. 118) — one of

[1] S. Abondio, Como (Ill. 110), etc.
[2] Sta. Maria of Susa, etc.
[3] See below, p. 220.

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Ill. 106. — Transverse Section, S. Ambrogio of Milan. (From Dartein)

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the most peculiar features of Lombard architecture. Here also were developed those curious conical spires (Ill. 118) which crown all the campaniles and still give the city so picturesque an appearance.

The cathedrals of Parma and Modena each show local peculiarities, and although they were in common profoundly influenced by the neighboring Tuscan school, nevertheless each seems to be, as it were, a school to itself. A large group of churches in Piedmont shows conflicting influences from Como, from Milan, and from the North, with the latter influence often predominant. In Padua, the farthest outpost of the Lombard style, the church of Sta. Sofia shows much that is undoubtedly Lombard, but much else that is so confused as to defy analysis.

It will be seen, then, that this style, starting at Milan and Pavia, in the center of Lombardy, spread through all Lombardy, through Piedmont, far into Venetia, into the Emilia, and even into Umbria, becoming, however, weaker and more modified by external influences the farther it spread. Thus its geographical distribution corresponds quite accurately to what is known as "Alta Italia."

The well-nigh universal influence Lombard architecture exercised upon all the Romanesque schools of Europe must be ascribed no less to the accidental chance of its geographical situation than to its early and rapid advance. Italy lay directly in the path of all travelers, whether to Rome, the head of Christendom, or to the Holy Land, whither in the early XI century ever-increasing numbers of pilgrims began to flock. It is a significant fact that the Germans, who of all nations were brought into the closest and most constant contact with Lombardy through the ceaseless expeditions of the Empire to Rome, produced a Romanesque architecture that is more strongly and obviously influenced by Lombard models than that of any other nation. But to a greater or less degree, all Western architecture underwent influence from Lombardy, and from the Mediterranean to the North Sea, there is hardly a later Romanesque building that is not more or less colored by the force of Lombard tradition.

It is a strange irony of fate that this style, which thus laid the

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foundation for so much achievement, should itself have stopped so far short of perfection. It is an archæological rather than an esthetic interest which attaches to these buildings of North Italy. We are attracted to them rather because they were the first buildings of Europe to break away from the old classical and Carolingian tradition and to strike out in new and better ways than because they themselves achieved the artistic triumph they made possible to the transalpine builders.

From the very first, side by side with the progressive inventive spirit that discovered the rib vault, there was present in Lombard architecture that conservative tendency, that reverence for ancient tradition that has always been characteristic of Italian art. In the XI century this force was only secondary, although it is evident in the retention of the atrium (as in S. Ambrogio of Milan), in the survival of the simple apse, in the detached campanile, in the use of baptisteries, long after these features had passed away in the North. Yet, in the XI century, the structural development of the church does not appear to have been hindered by ultra-conservatism. In the XII century, however, the conservative spirit came to the fore, and opposed not only any original alteration of time-honored forms, but even the introduction of improvements discovered abroad. Thus in the XIII century, northern Italy was almost the last country of Europe to adopt the Gothic style, and when she finally did adopt it, it was in so half-hearted a fashion that her architecture retained until the time of the Renaissance its Lombard characteristics.

This conservatism doubtless contributed its share to the abandonment of the vault in all the outlying districts of the Lombard style. Como, even in the XI century, rejected this feature of the Milanese style, and in the XII century Verona showed quite as unmistakably her preference for the wooden roof. It is worthy of remark, however, that many of these schools, while declining the expense and uncertainty of constructing a vault, recognized the progress of Milan by adopting the alternate system of supports, sometimes without shafts,[1] some-

[1] Verona, S. Pietro in Castello (XI century); S. Giovanni in Fonte (1122); S. Vittore of Arsago (XI century?); and Cortazzone d'Asti (XI century?).

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Ill. 107. — Façade of S. Ambrogio of Milan. (From Dartein)

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times with transverse arches[1] (Ill. 111), and sometimes with shafts merely running into the flat ceiling.[2] Thus the alternate system became formulated into a sort of tradition, and we shall later find it, as such, exercising much influence north of the Alps.

But perhaps the one reason, more than any other, which led to the abandonment of the Lombard vault in the XII century, was the failure of the builders to devise adequate abutment. In such buildings as the basilica of Constantine, the Romans had invented sufficient and scientific methods for buttressing a groin vault.[3] Knowledge of this construction had been lost during the Dark Ages, but the Lombards evolved from the pilaster strip a new system of external buttressing. Pilaster strips had first been employed in a purely ornamental fashion, to express externally the internal bays. They were then gradually strengthened, as their structural value was discovered. That the exterior buttress of the Lombards is merely an exaggerated pilaster strip may be clearly seen in the baptistery of Biella, the only building that has preserved an example of the intermediate steps of this evolution. Now, the great difficulty with Lombard buttresses was the fact that the evolution was never entirely completed. The buttresses always remained more or less pilaster strips in their nature; they were flat and weak and quite insufficient to carry the thrusts, which consequently must be taken up by the walls. Unfortunately these walls, thick and clumsy as they were, have almost all proved unequal to the task thus imposed upon them. The difficulty was increased by the enormous thickness of the vaults themselves, the builders not seeming to have understood that by lightening the weight of the vault, they lightened its thrust.[4] (Ill. 94, 102, 103, 105, 106.)

[1] Verona, S. Zeno (1128), S. Lorenzo; Modena, Duomo (1099–1184).

[2] Verona, S. Zeno. (The western bays of the nave.)

[3] "The Romans did not at any time employ the buttress as a distinct architectural member. They contrived their buildings in such a manner that the thrust of the vaults should be taken either by dividing walls, or by the enclosing walls so thickened as to render them sufficiently resistant by the sheer inertia of their masses. The Romanesque builders were the first to develop the buttress as a distinct functional member." (Moore, *Gothic Architecture*, p. 11.) And yet, in Syria, there are examples of Roman or Early Christian exterior buttressing.

[4] "In S. Ambrogio the thrusts of the vaulting of the nave are met by heavy cross walls,

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This inadequate buttressing has brought it about that of all the Lombard vaults hardly one has stood to our day. Many fell or had to be repaired [1] immediately after completion; others were made to stand some time before they had to be replaced,[2] but all have given more or less constant trouble. To overcome this difficulty with the thrust of the vault, resource was had in the XII century to the use of tie-rods. These were pieces of metal stretched across the transverse arches at their springing. The idea structurally was immensely clever, for the thrust of the arch being equal at both sides, these tie-rods joining both thrusts made one exactly neutralize the other. By this inexpensive system, vaults may be sustained on lighter supports than by any other device known. From an artistic point of view, however, the system is most objectionable. Nothing makes a building look so unfinished, so unstable, nothing so spoils the lines of architectural design, as a series of these tie-rods, which indeed, give an excellent text for the truism, that while all artistically good architecture is structurally correct, by no means all architecture structurally correct is artistically good (Ill. 119). Nevertheless, the tie-rod attained great popularity in Italy, and came to be one of the leading characteristics of Italian Gothic. According to Dartein the earliest building in which it was planned from the foundations to make use of this construction was S. Pietro in Ciel-d'Oro of Pavia, dating from 1132, although the vaults of many older buildings have had to be subsequently reinforced by the addition of tie-rods.

Another structural peculiarity of Lombard architecture brought about by the difficulty of meeting the thrust of the vaults, was the use of wooden chains, embedded in the masonry to solidify the walls. Such chains are found at S. Ambrogio of Milan. They are concealed construction of the most flagrant type, and have the additional fault of being perishable, a fault singularly aggravated by the fact that since they are hidden from sight, it is impossible to watch them.[3]

built over the transverse rib of the vaulting of the triforium gallery, and they in turn are vigorously reinforced by salient pilaster buttresses against the outside wall." (Moore, *op. cit.*, p. 39.) None the less these vaults have never been secure.

[1] *E. g.*, S. Ambrogio of Milan. [2] S. Michele of Pavia.

[3] Dartein, 462.

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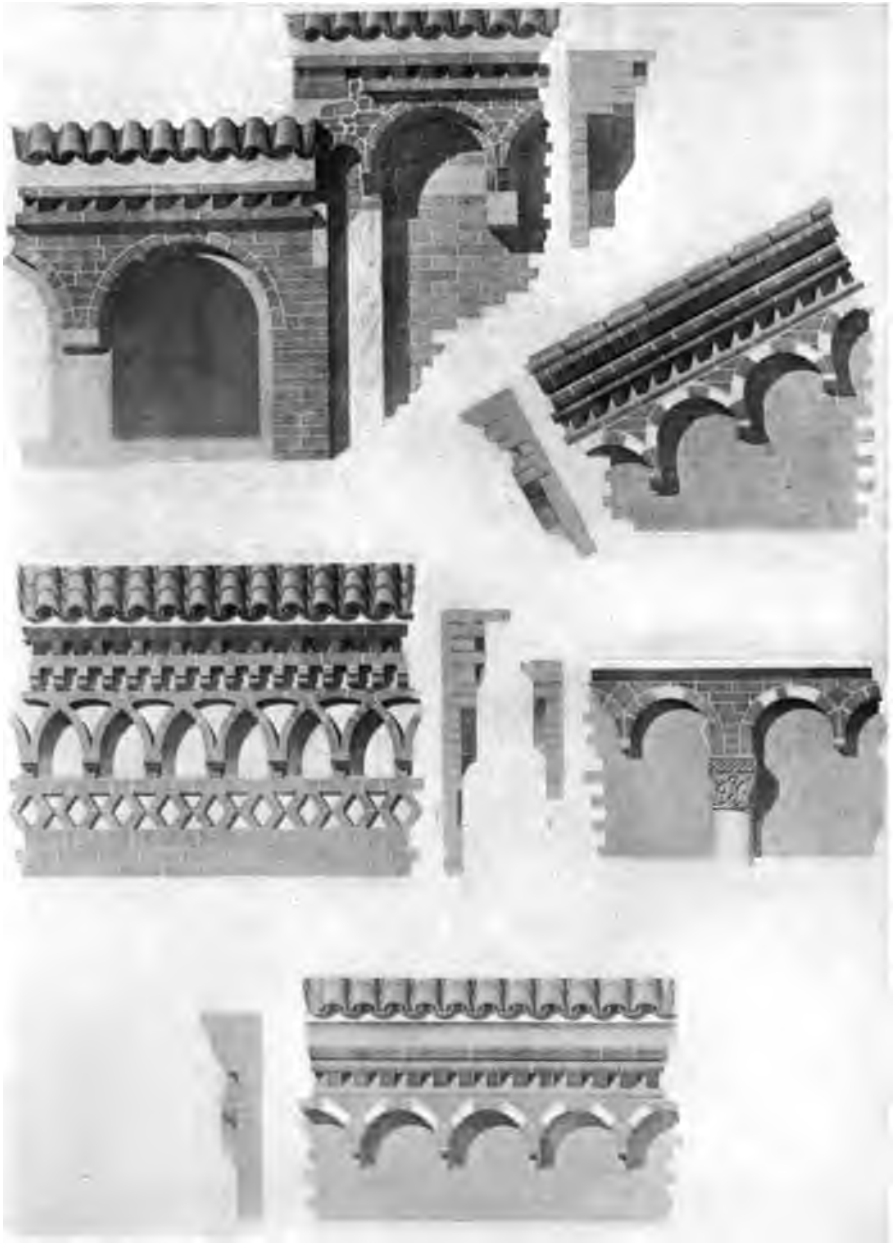

Ill. 108. — Arched Corbel-Tables of S. Ambrogio, Milan. (From Dartein)

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Certain peculiarities of vaulting occur in the transepts and crossing of Lombard churches. The transepts, at least in Pavia, were regularly covered with barrel vaults, with axis at right angles to that of the nave (Ill. 103, 104). Over the crossing was placed the Lombard cupola, one of the peculiar features of the style. This was raised considerably above the other vaults, and consisted of a cloistered vault, usually octagonal, supported by squinches. Externally the form of the vault was masked by an octagonal tower ornamented with several stories of arched corbel-tables or galleries and covered with a flat roof (Ill. 104, 105, 106).[1] This feature gave architectural importance and dignity both internally and externally to the most important part of the church — the sanctuary. When, however, it was borrowed north of the Alps, the crossing had ceased to be part of the sanctuary and the feature lost much of its significance.

The most unfortunate part of Lombard churches was the façade. The design of this portion of the basilica gave much trouble to many different schools of architecture, but by none was it treated with such signal failure as by the Lombards. In declining to attach the campaniles to the church, the Italians rejected what apparently is the only possible solution. We have not a sufficient number of monuments extant to trace the development of the particular forms the Lombards finally adopted, even were the task worth while. It seems probable, however, that the type which came to be characteristic of the churches at Pavia was due to certain chance constructions at S. Ambrogio of Milan (Ill. 107).

In S. Ambrogio, as we have seen, to buttress the nave vaults the clearstory was omitted and triforium galleries with vaults almost as high as those of the nave were added. Consequently the roof of the façade showed a gable with a continuous slope. This façade (Ill. 107) with its great open arches and flanking campaniles is the most successful one the Lombards ever erected, and the continuous slope of the gable seems to have offered such attractions for the Pavians that they adopted it even in churches where the aisle roofs were much lower than those of the nave. Such "false" façades as that of S. Michele Maggiore (Ill. 105,

[1] Cf. the Carolingian church of Germigny-les-Prés (Ill. 89).

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109) resulted — designs where the form of the basilica section is obviously belied. Even before this, it had been the custom in façades where the three aisles had been expressed, to raise the façade walls much above the actual roof of the church, perhaps with a view to making the church appear externally larger than it really was. This gross fraud continued to be practised in the churches of Verona and indeed of all Italy, so that it finally became characteristic of Italian church architecture.

On the false façade thus obtained, ornament, utterly irrelevant for the most part, was spread with a more or less lavish hand. Two great buttresses or groups of shafts, usually ending in the most inconsequential sort of way, divided the façade vertically into divisions corresponding to the aisles; the remainder of the wall space was more or less covered with a miscellaneous assortment of sculpture, arched corbel-tables (Ill. 108), Lombard porches, pilaster strips, arcades, galleries, and sometimes a window or so. A study of these façades is convincing evidence of how completely at this time the Lombards had lost all sense of composition, or proportion, and of design. The best of them, such as that of S. Abondio of Como (Ill. 110), rise by sheer force of simplicity to a certain rude dignity; the worst, such as S. Michele of Pavia (Ill. 109), are incredibly crude, childish, and barbarous. All sense of rhythm, of the relationship of parts, is totally lacking. With the vices of Roman architecture had been forgotten also its virtues. Looking at this façade of S. Michele we can well understand how for many years it was believed by archæologists to be a work of the VII century, of the darkest hour of the Dark Ages. During the course of the XII century, it is true, improvement was made in the treatment of façades; in that of S. Zeno, Verona (Ill. 118), for example, much of the crudeness has disappeared. Still, throughout this period, and with a few exceptions in the Gothic period also, the church façades continued to be stumbling-blocks to the Italians. The architects were fortunate if they succeeded in making them inoffensive, and almost never were they able to impart any positive artistic interest to them.

In passing, a word should be said on the detached campanile, so conspicuous a feature of Lombard churches. To the end

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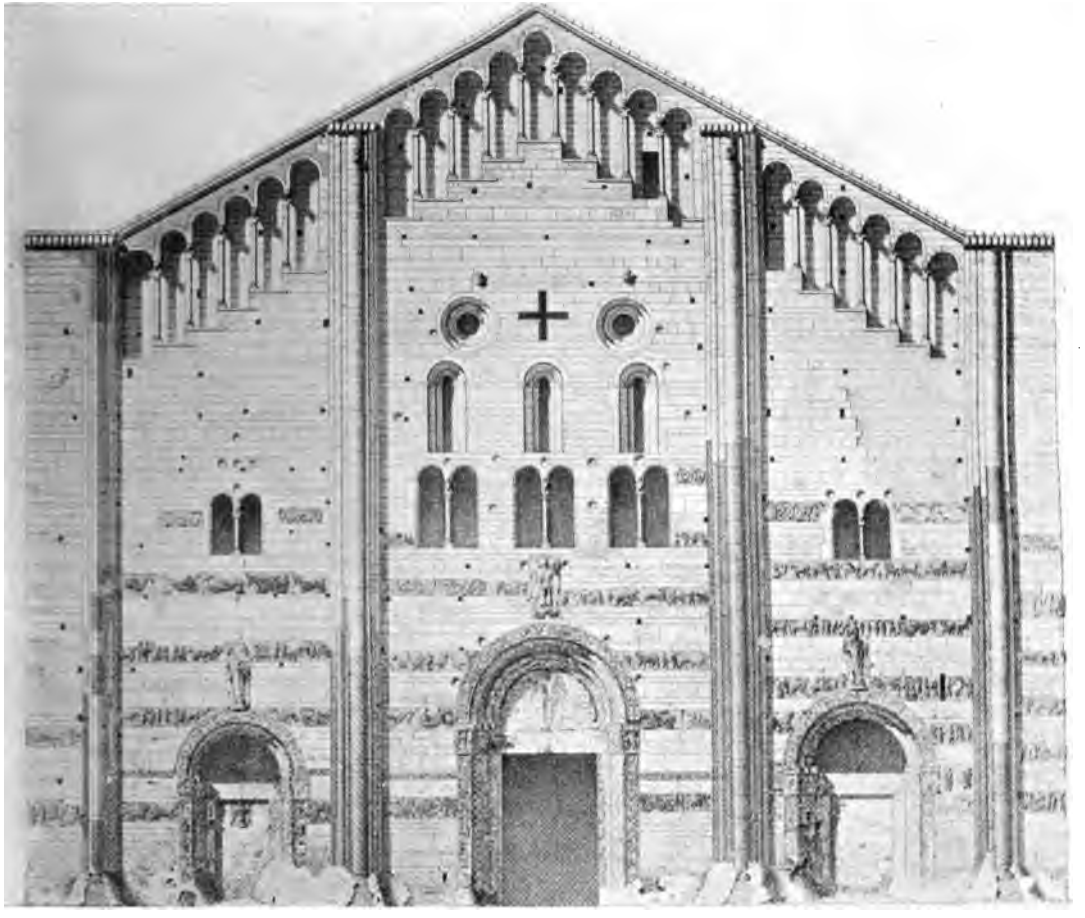

Ill. 109. — Façade of S. Michele of Pavia. (From Dartein)

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Ill. 110. — Façade of S. Abondio of Como. (From Dartein)

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these campaniles remained simple square towers, though they were decorated more or less richly with pilaster strips, arched corbel-tables, and other ornaments. The appearance of greater height was given by emphasizing the vertical divisions, and most unexpected delicacy was displayed in the distribution of the window openings, which were made larger and more numerous towards the top, thus lightening the effect of the upper part of the tower. Altogether these campaniles are among the most picturesque and artistic achievements of the Lombard style (Ill. 118).

Although somewhat aside from the main course of our study, it will be well to notice before leaving the subject of Lombard construction, the substitutes that were found during the XII century for the rib vault on an alternate system. The point of departure seems to have been the discovery, imported into Italy from the North, that a groin vault could be built on an oblong plan by stilting either the transverse or longitudinal arches. The rigid system of proportion necessitated by the alternate system seems to have bound down the architects somewhat too closely, and it was eagerly abandoned. At first the nave vault seems to have been left square, but the intermediate piers were omitted, thus making the aisle compartments oblong in the longitudinal sense and equal in length to those of the nave. This step, taken at S. Teodoro of Pavia, is illustrated by the diagram (Ill. 101, Fig. 8).

The next change was to exactly reverse the situation. The aisle compartments were made square, those of the nave oblong in the transverse sense. This stage[1] is illustrated in the diagram by Fig. 9 (Ill. 101). From this moment oblong groin vaults were used freely by the Lombard builders in both nave and aisles, and the alternate system as a logical construction passed out of use. The tradition, however, often survived, every alternate pier being made heavier, though all carried exactly the same load.

The rib vault cannot be said ever to have been actually forgotten in Lombardy, although a large majority of the vaults of the XII century were constructed with simple groins. Prob-

[1] See Cathedral of Parma.

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ably as a consequence of this preference for the groin vault, plain circular piers came to be substituted for the compound type. Since there were no longer any ribs for which supports were needed, the compound form became useless. It is noteworthy that circular piers had been from the first characteristic of the school of Como, and it is possible that this motive spread from that region to the other districts of Lombardy.

No further changes of construction were introduced until Lombard architecture gave place to the new style imported from France. Its final years tell a story — not of stagnation and decay, for progress never stopped — but of brilliant promise unfulfilled, of great possibilities come to nought. But while the last of the XII century brought only disappointment in structural lines, it was far otherwise in the field of ornament. The barbaric exuberance of early Lombard decoration was in the later monuments curbed and refined, so that much that is of genuine merit was produced.

Of all Lombard ornaments, the most important and the most characteristic is the arched corbel-table (Ill. 108). The popularity of this decoration was almost unbounded, and hardly a cornice in all Lombardy but is adorned with it. From Italy it spread over well-nigh all western Europe, and forms a distinctive clue by which Lombard influence may be immediately detected. Of the simplest form of this ornament as applied externally to the apse, we have already spoken in the chapter on Carolingian architecture. In Carolingian edifices it had generally been used in connection with pilaster strips, and openings were pierced in the thickness of the wall beneath the arches. This primitive form persisted occasionally throughout the Lombard period,[1] but often gave place to more complex forms of the same fundamental motive.

Very soon after the year 1000, there is noticeable a tendency to greatly extenuate and narrow the pilaster strips. Soon, doubtless on analogy with the interior system, shafts, or slender engaged colonettes, were substituted for them (Ill. 105, 107, 110). These shafts became so favorite a feature that groups of them were used to replace buttresses on the façade of

[1] As at Vercelli, Cassale Monferrato, etc.

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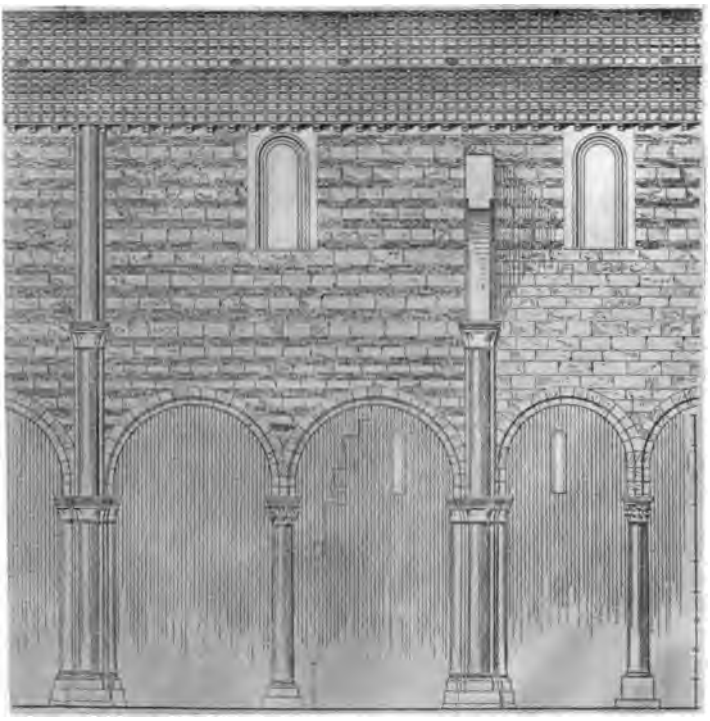

ILL. 111. — Section of S. Zeno, Verona, showing System. (From Dehio)

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Ill. 112. — Capital and base of S. Celso, Milan. (From Dartein)

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St. Michele at Pavia (Ill. 109). They were also used to form a new decoration, one of these shafts being placed under each of the corbels of the arched corbel-table so as to appear to support its arches. This turned the ornament into a sort of engaged arcade (Ill. 105). The step to make these engaged arcades practicable galleries was a short one; the latter feature, however, seems hardly to have been introduced into Lombardy before the XII century. At that time it became a favorite motive, one treated with a play of fancy and a delicacy seldom shown by Lombard art (Ill. 109).

Arched corbel-tables were essentially an exterior ornament, but they were at times also applied internally, usually as a string-course to mark the division into stories. At S. Ambrogio, shafts from the intermediate piers rise to support the arched corbel-table at the triforium level (Ill. 92, 119), a curious disposition repeated at S. Celso of Milan (Ill. 97) and in the baptistery of Arsago.[1]

To the XII century belongs the doubled arched corbel-table — a motive perhaps suggested by the double arcades of Normandy. The reproduction (middle left of Ill. 108) shows the nature of this variation. The last form assumed by the corbel-table — perhaps the one most momentous of all for the future — was the flat corbel-table. In this variant the arches are left out, and the ornament is reduced to a series of corbels supporting a flat cornice. These flat corbel-tables seem almost like a reminiscence of the Corinthian modillion. They are found in the interior of S. Michele of Pavia (Ill. 104) early in the XII century, and are of frequent occurrence thereafter.

All these and many other variations were played on the theme of the arched corbel-table, and yet the original motive is clearly to be recognized in all. Whether following the rake of a gable or dividing a campanile into stories, whether as a gallery or an arcade, in some one of its many forms the motive may be found in every Lombard building. How constantly it was used, may be appreciated by glancing over the illustrations of Lombard buildings given in this chapter.

Next to the arched corbel-table, sculpture formed the most

[1] See below, p. 257.

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characteristic feature of Lombard decoration. No adequate study has yet been made of this art, and until such is done, it is impossible to trace any growth or development in the style. The main characteristics, however, are patent enough. Figures are used in a purely decorative way, being mingled with leaf or string patterns in rinceaux or capitals. The figures are often grotesque and always badly proportioned, being generally much too broad for their height. They are composed with an eye for humor rather than for beauty, and many of the subjects before modern expurgations were extremely obscene. Monsters, mythological creatures, strange distorted animals, interchange with the human figures. The drawing often shows a sense of caricature that ill befits the character of a sacred edifice (Ill. 112, 113). These humorous grotesques, barbarous as they seem to us to-day, offered, however, a singular attraction to the medieval mind. In the days before comic newspapers they seem to have fulfilled the function these journals fill with us. It was in vain that St. Bernard invoked against such decorations all the thunders of the Church. Even the gloom of medieval asceticism could not quench all the deviltry of human nature; and these immoral grotesques, funny even to-day, disported themselves on the buildings of the Church which should have opposed them.

Of pure figure sculpture, the Lombards offer us but little. The most notable examples are the slabs of reliefs built in the façade of S. Michele — slabs placed so crudely and so at haphazard as to suggest a rebuilding with second-hand materials. At all events, it seems clear that this façade was designed with a view to displaying the sculpture, rather than the sculpture executed to decorate the façade (Ill. 109).

The conventional sculpture of the Lombards was very rich and varied. It is hardly worth while to stop to analyse its separate motives; many would hardly be found twice, and yet the character of the whole, as will at once be seen from the illustrations (112, 113, 114, 116, 117) is unmistakable. Many familiar forms will be found persisting in but slightly changed dress — the rinceau and acanthus in both the Latin and Byzantine versions, the guilloche, the interlace, etc. At bottom this

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ILL. 113. — Capital of S. Michele, Pavia. (From Dartein)

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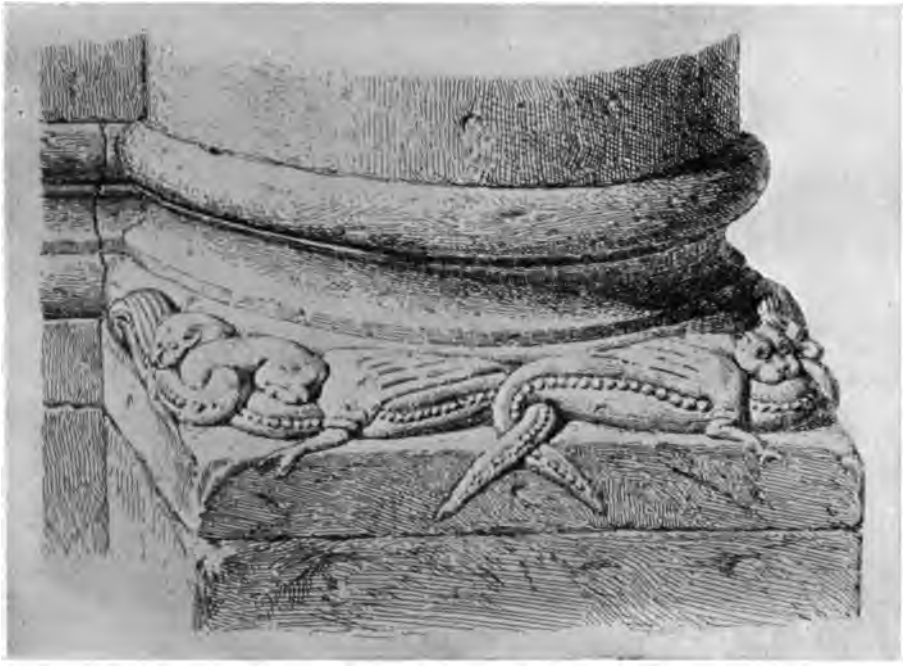

ILL. 114. — Base of S. Michele, Pavia. (From Dartein)

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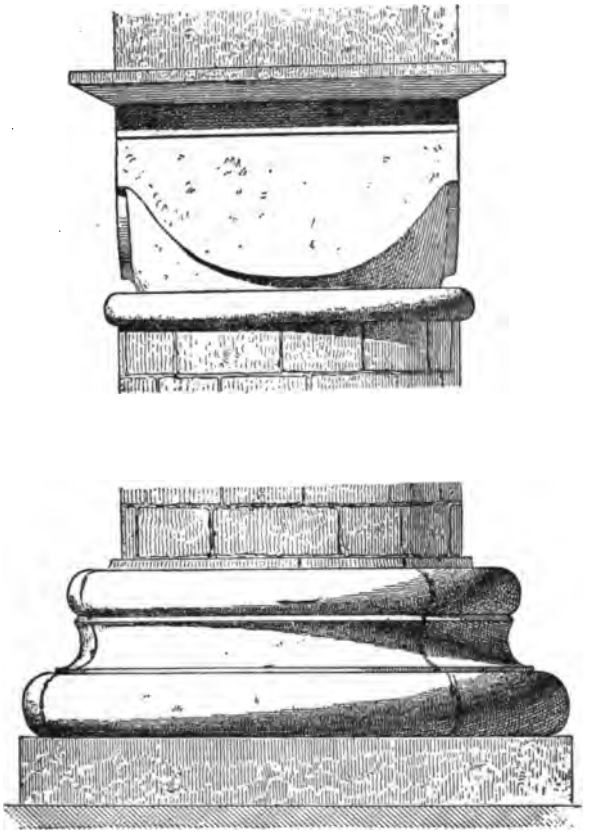
ornament is Carolingian, and shows the uninterrupted development of such Carolingian sculpture as has been studied in the previous chapter. Strangely enough, however, the Germanic element comes to the front even more decidedly than in Carolingian decoration. It is evident in the grotesque character, in



ILL. 115. — Cubic Capital from S. Abondio, Como. (From Dartein)

the lack of symmetry, and above all in the exuberance, of Lombard ornament. There is, on the other hand, much less that is Byzantine in Lombard than in Carolingian decoration. Yet, even so, the Eastern element remains unmistakable, and that Byzantine stringiness we have so often spoken of, here reached its extreme development (Ill. 117).

The best field for ornamental sculpture was offered by the

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doorways. In the thick walls necessitated by a vaulted basilica, it had been the custom to splay the door openings, just as windows had been splayed. This splaying was of practical advantage in facilitating the passage of a large crowd through the opening. Then, like the archivolts of the nave, the archivolt and jambs of the door came to be built in several orders, usually alternately rectangular and three-quarter round in section. These orders were commonly decorated with great richness, although in Lombardy they never were given quite such lavish decoration as was bestowed upon them in the North. Yet such portals as those of S. Ambrogio, Milan, or of S. Michele, Pavia (Ill. 117), are decidedly the most richly ornamented part of the building, and are of great architectural effect.

In the XII century, and especially in the neighborhood of Verona, the entrance to the church was still further emphasized by the addition of the Lombard porch. This consisted of a little porch built before the door, and supported usually by two columns resting on the back of sculptured monsters. A second story often served as a niche for the image of a saint. These peculiar porches are very characteristic of the late Lombard style (Ill. 118).

In capitals the style offers a very wide variety. At S. Abondio of Como (1013–1095) are found cubic capitals whose nature can be best understood from the reproduction (Ill. 115) and which we shall find playing an important role in Normandy. More typical, however, are the elaborately carved examples shown in Ill. 112, 113, 116. In these it will be seen that classic tradition has all but died out. The position of a head now and then recalls the Corinthian volute, but in the main the sculptor has gone his own way with an exuberant fancy, untrammeled by conventional forms. It is impossible to classify or generalize concerning these Lombard capitals; the variety is well-nigh infinite. And yet even from the few examples reproduced in the illustrations, the unity of feeling which runs through them all may be readily perceived.

Doubtless one of the main fields of Lombard ornament, though one unfortunately now lost to us, was the painting with which the interior walls were decorated. It is impossible to

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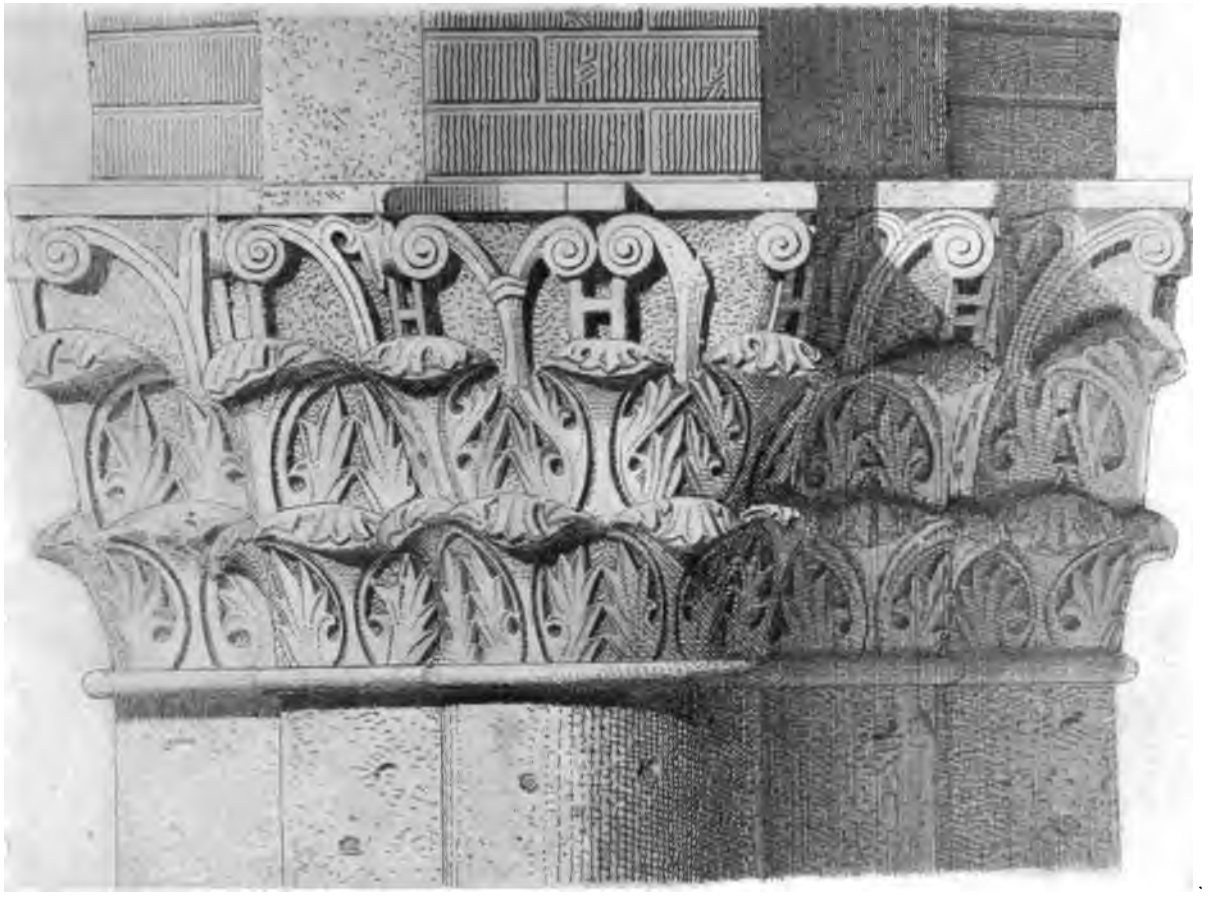

ILL. 116. — Capital of Atrium, S. Ambrogio, Milan. (From Dartein)

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ILL. 117. — South Lateral Portal, S. Michele of Pavia. (From Dartein)

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ILL. 118. — Façade of S. Zeno, Verona

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ILL. 119. — Interior of Nave, S. Ambrogio, Milan

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say just how extensively ornament of this character was employed, but there seems no reason to doubt that it was largely used.[1] Fresco-painting had been practised from Early Christian times,[2] and as mosaic decoration passed out of use, this art doubtless came to take the place mosaics had once occupied in mural adornment. How materially such color would have lightened the oppressive gloom that now weighs upon Lombard interiors, there is no means for us to judge, but we can imagine that the stiff conventional figures of the medieval Italian school would not be without their value as architectural accessories.

Lombard architecture, although it showed much attainment on its decorative no less than on its constructive side, still fell far short of being a truly great, or even a satisfying art. There is no monument of the Lombard Romanesque capable of affording deep esthetic enjoyment. Although the charm of age, the glamour of history, the thought that these monuments are the parents of the stately cathedrals beyond the Alps, lend them an undeniable interest; although there is a grace that cannot be gainsaid in such a design as that of S. Lazarro, Pavia, the daintiest of all Lombard constructions; yet we turn away from Lombardy towards Pisa, or Venice, or the Rhineland, or France, or Spain, with the feeling that Lombard art, after all, was only a failure; that it was an art which attempted what it was unable to carry to completion.

LOMBARD MONUMENTS

I. Monuments of the First Class

MILAN, Lombardy. *S. Ambrogio.* For this most important of all Lombard monuments, whose nave probably dates from the last quarter of the XI century, see p. 172.

S. Celso. For the apse, see p. 175. Subsequently to the foundation of this church in 998, it is known that three restorations were carried out: the first (1550) was notable for the construction of the vault which still survives; in 1651 a new façade was erected; and in 1777 still other additions were made. In the XIX century the first two bays of the nave were pulled down. The main body of the present church, however, can hardly have been erected at the time of the original construction in 998

[1] The most notable example remaining is, I believe, in S. Fidele, Como.

[2] *E. g.*, Rome, Sta. Maria Antica, S. Paolo, f.l.m.; Como, ancient basilica of S. Abondio, etc.

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nor in any of these subsequent restorations, since it betrays the fully developed Lombard style. Moreover, the bays of the nave which have been torn down — to judge from descriptions made before their destruction — could not have been contemporary with the bay which survives, and which Dartein assigns to the second half of the XI century,[1] though I should be inclined to place the construction even earlier, in the first half of the XI century. The nave was undoubtedly roofed originally in wood, although the aisles were groin-vaulted. The system is alternate, with compound piers of several orders and transverse arches. There seem to have been no external buttresses.

S. Eustorgio. For the X century church, see p. 175. The Lombard nave has been so many times rebuilt and altered, that it is impossible to speak with confidence of its original arrangements. The present edifice is characterized by three aisles, a nave eight bays long, and piers, which, while varying so much among themselves as to suggest construction at different epochs, are in general compound with diagonal shafts. Although the three aisles are now of equal height, capitals placed half way up on the piers and low transverse arches thrown across the aisles, seem to show that there were originally galleries. These were probably cut away in order to erect buttresses for the main piers. The nave is vaulted in square compartments with rib vaults — in at least one compartment a wall rib is included in the system. It is difficult to assign a date to this nave, but as the ground work of the present structure appears to be about contemporary with S. Ambrogio, it may be referred to the last half of the XI century.

S. Nazaro Maggiore is said to have been founded by S. Ambrogio in 396. In 1075 the primitive church was destroyed by fire, and the construction of the edifice still extant was presumably begun immediately afterwards.[2] S. Nazaro Maggiore, consequently, may be considered as an accurately dated monument, and as such assumes unique importance in the history of Lombard architecture, although, unfortunately, its dispositions are somewhat exceptional. It is a church of a single aisle, a Latin cross in plan, the choir and transepts being much extended and ending in semicircular apses. The crossing is covered with an octagonal dome. The church is vaulted throughout with ribbed vaults in square compartments, resting on engaged compound piers. These piers were obscured in the redecoration of 1578 and entirely removed in 1818; but their design, which is happily known, included diagonal shafts, a fact which proves that the church was planned from the foundations for a rib vault. On the basis of this evidence it is safe to conclude that rib vaults must have been known in Milan shortly after 1075. (Dartein, 199.)

Sta. Babila. There is no documentary evidence for the date of the present building, which is assigned by Dartein to the XII century, although Comm. Rivoira ascribes it to the first years of the XI. The building was restored in 1387, and must have been

[1] P. 195. Cattaneo (somewhat carelessly) assigns it to the XII century.

[2] The account in Arnolf of this fire which in 1075 devastated almost the entire city ends as follows: "Hoc tantum crudelior, quod multo plures ac majores combussit ecclesias. Illam scilicet vestivam ac mirabilem Sanctæ Virginis Teclæ, Beati quoque Nazarii, nec non Protomartyris Stephani, cæterasque plures, etc." — cit. Dartein, p. 199.

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much modernized since, for the present barrel vaults are evidently comparatively recent additions. The interior is characterized by three aisles (of which the side aisles are groin-vaulted) separated by compound piers carrying transverse arches; the exterior, by salient buttresses of rectangular section. (Rivoira; Dartein, 213.)

S. Giorgio al Palazzo. There is extant an historical notice of the consecration of this church in 1129, and the present edifice doubtless dates largely from this time, though it has been modernized in the XVI and XVII centuries. Several of the ancient piers, which still survive in the eastern part of the nave, show that the original system was alternate, the nave and aisles both being divided into square compartments. It is probable that it was at least intended to cover the church with rib vaults, constructed on a system similar to that of the contemporary church of S. Michele of Pavia. (Dartein, 212.)

S. Calimero is a church of a single aisle, terminating in a great apse. The interior is divided by transverse arches (vigorously buttressed internally and externally) into five bays, which are covered with groin vaults. The first four bays, oblong in plan, are half as long as wide, but the last, which forms the choir, is nearly square. This choir, which is placed over a crypt, is raised five steps. The monument may be assigned on its style to the XII century. (Dartein, 214.)

S. Simpliciano. The present building is cruciform in plan, the three aisles being intersected by a projecting transept. This transept is remarkable in being separated into two equal aisles by a line of pillars. The vaults which all spring from the same level are slightly pointed. According to Mongeri, the primitive basilica was replaced during the Lombard period by a church covered with a wooden roof. In the XIII century the transept was added, the side aisles raised (like those of S. Eustorgio), and the vault constructed. An unfortunate restoration of the monument in 1841 has made it difficult to study; in fact, the façade is the only portion that is still well preserved. (Dartein, 216.)

Sto. Stefano in Brolio. Since this church was destroyed by the same fire which burned S. Nazaro Maggiore [1] in 1075, it was doubtless reconstructed soon after this date. The only relic of this Lombard church, however, is a pier at present placed in the square adjoining the modern Renaissance structure of the same name. (Dartein, 215.)

S. Sepolcro. This church is said to be the same as that founded in 1030 by Benedetto Rozone da Cortesella and dedicated to the Trinity. Modified in the same century in imitation of the Holy Sepulchre of Jerusalem, it in consequence received the present name. Further alterations were carried out in the XVI, XVII, and XVIII centuries. (Marini, 51.)

S. Giovanni in Conca, to-day desecrated, is of very ancient origin. Rebuilt in 1615, it preserves of the Lombard structure only the façade, whose style seems to be that of the late XII century. (Dartein, 215.)

Sta. Maria di Brera, which serves at present as an archæological museum, dates from the first years of the XIII century, except for the façade of 1362. The supports are cylindrical piers.

[1] See above, p. 222.

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PAVIA, Lombardy. *S. Michele Maggiore* (Ill. 103, 104, 105, 109, 113, 114, 117) among Lombard edifices is surpassed in interest and importance only by S. Ambrogio of Milan. The church must be of very ancient foundation, since it is mentioned by Paulus Diaconus in reference to the years 662 and 737, while in the VIII century Desiderius left the basilica a legacy for the welfare of his soul. In 924 the Hungarians burned Pavia, reducing it, as say the terrified chroniclers, to a heap of stones; and it has been supposed that the basilica of S. Michele shared in the general destruction. Yet this disaster could not have been as great as the chronicles would lead us to believe, for Rudolf, King of Burgundy and Italy, established his capital at Pavia in the very year of the supposed destruction of the city, and Lothaire here held his court until 948. Furthermore, Berengar and Adelbert were crowned in the church of S. Michele in 950, and as early as 930, or only six years after the Hungarian occupation, the body of S. Colombano, founder of the monastery of Babbio, was received in the same church with great pomp. All these facts justify the inference that if the church suffered at all in the disaster of 924, it could have been only in part destroyed. It probably also escaped from injury in the fire started by order of the Emperor Henry II in 1004 — a fire which certainly did destroy neighboring buildings, — since it is recorded in public documents that Adeltruda, abbess of Ss. Leone e Marino in 1005 exchanged a stable not far from "the basilica of the arc-angel Michael, which is called Maggiore,"[1] and that in the same year Otto, son of King Arduin, signed an act of donation "in the palace next the church of St. Michael."[2] But however this may be, the present structure can date neither from 924 nor from 1004, since the style is undoubtedly that of the XII century, or more precisely of c. 1125. Now although it is unknown at what date the monastery was established in S. Michele, it is first mentioned as existing in the XII century. It is therefore not improbable that the monks were here established about this time, and that they at once set to work to rebuild their church. The existing edifice is characterized by crude technique, and consists of a nave two double bays long, two side aisles, and projecting transepts. The nave was originally vaulted with rib vaults on an alternate system, but in the XV century these were torn down and replaced by the present oblong vaults. The transepts and choir are barrel-vaulted; the aisles have groin vaults with transverse ribs; and a cloistered dome rises over the crossing. S. Michele in its general interior design is quite similar to S. Ambrogio of Milan, although it differs from the earlier structure in being supplied with a clearstory. The system in the two buildings is precisely similar, except that in S. Michele the corbel-table at the triforium level is flat, offering thus an awkward termination for the shafts of the intermediate piers. Modern side chapels now line the exterior walls, completely masking the original buttresses. The false façade is ornamented with unmeaning shafts, practicable galleries, and sculpture, which here as throughout the church is employed in a lavish, if somewhat barbaric, manner, suggesting the use of second-hand materials. No less than six richly ornamented doorways enrich the splendor of the exterior decoration. (Venturi; Dartein; Dehio; Cattaneo; Dell' Acqua; etc.)

[1] Non longe de basilica S. Archangeli Michaelis quae dicitur majore.
[2] In palatio juxta ecclesiam S. Michaelis.

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S. Pietro in Ciel d'Oro. The fame of this church was established by Luitprand, who in 723 transported hither the relics of St. Augustine, formerly buried in Sardinia. According to Paulus Diaconus the same king founded the monastery: "he [Luitprand] founded the monastery of St. Peter, which is situated without the walls of the city of Pavia and is called Ciel d'Oro." [1] Soon after, in 743, the pope Zacharias, who chanced to be at Pavia, celebrated on the eve of St. Peter a solemn mass in the church of S. Pietro in Ciel d'Oro. But of all the notices in regard to this church, the most interesting dates from 1132. In this year on May 9th, the church was solemnly consecrated by Innocent II. It was undoubtedly the present edifice which was then dedicated, so here at last we have an authentically dated Lombard monument, giving a central date of support for the study of the style. The church originally consisted of a nave five bays long, two side aisles, non-projecting transepts, and three apses. The first four bays of the nave are covered with oblong rib vaults, without wall ribs, but with slightly pointed wall arches — an evident advance over S. Michele Maggiore; the last bay is covered with a barrel vault, and a cloistered dome rises over the crossing. Tie-rods seem to have been introduced as part of the original construction to neutralize the thrust of all these vaults. The piers are compound, with diagonal shafts but with no extra orders, except in the triumphal arch. The false façade, evidently slightly later than that of S. Michele, is decorated with the usual unmeaning shafts, single and double arched corbel-tables, and practicable galleries. External buttresses reinforce the stability of the side walls. (Dartein, 279.)

S. Teodoro, a church which was originally consecrated to St. Agnes, is of very ancient foundation. St. Theodore, who was bishop of Pavia from 736 to 778, was buried in the church of S. Giovanni; but the body of the saint was later transferred to Sta. Agnese, whose title was consequently changed. This is all that is known of the history of the church before the XIII century. Although Dartein assigns the present structure to the middle or second half of the XII century, the style of the edifice makes it evident that it must be at least as early as S. Pietro in Ciel d'Oro (1132). The monument consists of a nave four bays long, two side aisles, non-projecting transepts, and three apses. Except for the cloistered dome which rises over the crossing, the building is covered throughout with groin vaults reinforced by heavy transverse arches. The number of vaulting compartments in aisles and nave is equal, those of the nave being square, and those of the aisles consequently oblong in the longitudinal sense. The compound piers are crowned by capitals either cubic or crudely carved, for the sculpture throughout is very poor and has lost what little character it originally possessed through modern restorations. Beneath the vaults is inserted a low clearstory. The exterior, especially the apses, is decorated with arched corbel-tables resting on shafts; on the cupola are flat corbel-tables and arcades. (Dartein, 282.)

S. Lanfranco. According to an ancient manuscript, which I believe has never been published, this monastery was founded in 1090, and the church was begun in the same year. There is furthermore record that a donation was made to the mon-

[1] "Hic monasterium Beati Petri, quod foras muros Ticinensis civitatis situm est et cælum aureum appellatur, instituit." — Paulus Warnefridus, lib. vi, cap. 58.

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astery of S. Lanfranco in 1116, which would seem to confirm this statement. But another manuscript [1] refers the arrival of the monks to the year 1190, and states very precisely that the church was consecrated in 1236, the campanile erected in 1237, and the façade completed in 1257. Dartein reconciles the contradiction by supposing that the church orignally erected in the XII century was remodeled in the XIII; but, since the style of the present edifice is evidently about contemporary with that of S. Pietro in Ciel d'Oro, it is probable that an error has crept into the last text, and that the dates should be altered to 1090, 1136, 1137, and 1157 respectively, notwithstanding the fact that the church certainly was altered in the XIII century. The monument which is of a single aisle with transepts is covered with groin vaults on an oblong plan except for the cloistered dome which rises over the crossing. The false façade shows a poverty of ornament which is characteristic of the entire edifice.

Sta. Maria del Popolo, the ancient cathedral, is completely ruined, only the southern wall to the level of the pier capitals and parts of the crypt surviving. From these ruins it is evident that the first five oblong rib vaults of the nave corresponded to an equal number of square vaults in the aisles. The sixth bay of the nave, however, was expanded to form a sort of transept. The vaulting of the aisles was peculiar. In the bays 2, 3, and 5, counting from the west, were placed rib vaults erected at the usual level; but in 1, 4, and 6, barrel vaults were erected at a level halfway between that of the lower aisle vaults and that of the nave vaults. There is no historical evidence for the date of this building, which Dartein is doubtless right in assigning to the XII century. (Dartein, 301.)

S. Lazaro. A deed of gift of Dec. 29, 1157 gives positive evidence that this little church was constructed about the middle of the XII century. The monument consists of a simple rectangle of 19.03 × 7.37 m. covered with a modern barrel vault. A semicircular apse projects to the eastward. The decoration consisting of redoubled orders, pilaster strips, and stilted arcades is very elegant, and this building is, perhaps, from the point of view of ornament the *chef d'œuvre* of the Lombard style. (Dartein.)

Sto. Stefano. This church, of which there remain only a fragment of the façade and some of the ancient supports now imbedded in masonry, seems to have had five aisles. The surviving supports are Lombard compound piers; but in the center of one of these piers was found a column whose capital, a barbarous imitation of the Corinthian, must be referred to the Carolingian era. Dartein assigns this capital to the VII, the Lombard construction to the XII, century. (Dartein, 295.)

S. Agostino, S. Ambrogio, Sta. Maria Deodata, S. Tommaso, S. Salvatore. These five ancient churches have been completely modernized. (Willis.)

Monuments of the Second Class

VERONA, Venetia, *S. Zeno* (Ill. 111, 118) said to have been founded in the IX century by Charlemagne or his son Pipin, was destroyed by the Hungarians in 924; but two centuries later (1138) the present building was erected — as is known

[1] In the archives of S. Lanfranco, entitled *Funus Monasticum.* For a discussion of this whole question, see Dartein, 288.

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from an inscription on the campanile — although the Gothic choir was evidently added in the XIV century. The nave is characterized by an alternate system of compound piers and columns. In the two easternmost bays there are transverse arches, and it was probably the intention of the builders to erect similar arches at all the alternate piers. But except in the two bays mentioned these arches were never executed, and the shafts destined for their support are merely continued to meet the wooden roof. The archivolts in two orders are carried to the ground in the alternate piers. The false façade (the east ridge of the nave is also raised above the roof to balance the west gable) is characterized by the use of pilfered materials, by pilaster strips and corbel-tables in several stories, by a Lombard porch, by a large rose window, and by a horizontal arcade. (Dehio; Dartein; Cummings; Fergusson.)

S. Pietro in Castello, said by Panvinio to be the oldest of the Veronese churches, is now completely destroyed, save for a few fragments of the walls. Manara refers these ruins to the IX or X century, but they can hardly be earlier than the year 1000. According to Biancolini who saw the monument while it was yet intact, there were galleries and an atrium. A square apse opened upon very wide square transepts, across which the main arcade was originally carried in three bays, but these bays were later walled up. The supports were alternately square piers and columns, apparently without transverse arches except at the crossing. The façade had no tripartite division. (Manara.)

Sto. Stefano. The history of this monument has been summarized, and the apse described, above (see p. 183). The portions dating from the XI century consist of the nave, the side aisles, and the projecting transepts, all roofed in wood. The choir, raised thirteen steps above the pavement of the church, occupies the last bay of the nave, the transepts, and the apse. A low octagonal tower rises over the crossing. The supports are plain square piers, and there is no clearstory. (Dartein, 444; Cummings, 145.)

Duomo, founded in the VIII century, was rebuilt in 840. Repeated reconstructions must have followed in the XI and XII centuries, and it is known that a consecration of the edifice was solemnly celebrated by Pope Urban III in 1187. The monument, however, has since been much altered — so much so that it is difficult to trace the XII century dispositions. The present nave is entirely Gothic. Romanesque work, however, survives in the façade, and in the Lombard porches which adorn the entrances. (Cummings, 151.)

S. Giovanni in Fonte, the baptistery of the Duomo, is remarkable for its basilican plan. Perhaps an old church was converted to this use. The nave, which is not vaulted, is prolonged westward beyond the side aisles; it is separated from them by four small arches, carried alternately on columns and square piers. At the east end are three apses. The building which is ascribed to the XII century may have been rebuilt after an earthquake of 1122. (Longfellow.)

S. Lorenzo consists of three aisles, terminating in three apses. While there are no transepts properly speaking, the last bay of the nave is flanked on either side by two projecting chapels, and it was probably the intention of the builders to erect over it a Lombard cloistered dome. A triforium gallery surmounts the aisles. The

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system is alternate with finely clustered compound piers and columns whose shafts and occasionally whose capitals also are pilfered. The nave is at present barrel-vaulted, but was originally roofed in wood and spanned by transverse arches. The western façade is preceded by two circular towers, and a third campanile, which is very similar to that of Ss. Apostoli, rises at the southwest corner of the apse. Curious features are the well-defined buttresses of triangular shape. There is no documentary evidence for the date of this interesting monument.

Ss. Apostoli. Of the church consecrated in 1104, only a small portion of the apse and the campanile survive. This apse is decorated with interlacing mouldings and reed-like columns similar to those of the Duomo. The campanile, whose lower stories are constructed of alternating courses of bricks and pebbles with corner chains of dressed blocks, is crowned by a cone or spire built of pebbles.

Ss. Siro e Libera is a flat-roofed basilica, with transepts and an elliptical apse. The crossing is crowned by an octagonal cloistered dome. Many other portions of the building including the Gothic façade have been rebuilt subsequently to the Lombard period. The apse is ornamented with arched corbel-tables and pilaster strips.

S. Giovanni in Valle is a flat-roofed basilica with a modern clearstory. Most of the piers are square without capitals, but certain columns have pilfered Corinthian capitals, whose volutes are replaced by grotesque carvings of rams.

Sta. Maria in Organo has been entirely modernized. Of the original building nothing remains but the capitals.

Sta. Maria Antica, a small church with three apses but without triforium, clearstory, or transepts, has been recently restored. The only windows are pierced in the vault. The transverse ribs of the nave are not carried down to the uncarved capitals of the main piers, but the transverse arches of the aisles rest on round columns.

Sta. Trinità is said by Willis to date from 1115.

S. Antonio Vecchio. (Willis.)

PARMA, Emilia. *Duomo* is the masterpiece, esthetically speaking, of Lombard architecture. Until the X century the cathedral church of Parma was situated within the city walls. Destroyed by fire in 920, it was rebuilt without the walls, a precaution, however, which did not prevent its being burnt anew in August, 1058, by a terrible conflagration which consumed a large portion of the city. In consequence of this disaster, the bishop Cadalus (the same who afterwards became anti-pope under the name of Honorius II) undertook a complete reconstruction. Pascal II consecrated the new church in 1106, but the earthquake of 1117 destroyed it "in great part." The edifice was doubtless reconstructed again after this calamity, but according to Dartein, the lower part of the walls, the lower part of the piers of the crossing, and part of the façade of the XI century church were preserved. The structure as thus rebuilt in the XII century still survives practically intact; it consists of a nave seven bays long (the bay adjoining the transept is somewhat longer than the others), two side aisles, projecting transepts, and a prolonged choir. The rib vaults are constructed on an oblong plan in the nave, on a square plan in the aisles; over the crossing rises a cloistered dome. The compound piers, alternately heavy and light,

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although showing much variation, all have about the same number of members. Apses open off the transepts both at the ends and on the eastern sides. There is a large triforium gallery and a clearstory. The façade is interesting for its Lombard porch, its three Tuscan arcades, its double arched corbel-table supported by little shafts, and its stepped cornice. In general, the exterior is ornamented with blind arches, arcades, and buttresses of slight projection. (Dartein, 412.)

MODENA, Emilia. *Cattedrale.* The construction of this monument was begun in 1099 as is known from the following inscription still to be read on the apse: "This house, in which rests the body of St. Germinianus, is everywhere splendid with beautiful marble sculpture. The world honors this famous saint, and we especially, to whom he was bishop, and whom he nurtured and clothed with his ministry whenever any one sought from him the true cure for body and soul. Lanfranc, clever at art, a man learned and skilful, was the first master and director of this work, by whom it was commenced (as this inscription bears witness) on the 9th day of June, ninety nine years after the year 1000 of our Lord. He composed these appropriate verses in the same year. Bocalino Massario of St. Germinianus caused this work to be carried out."[1] Although works were sufficiently far advanced in 1106, that the body of St. Germinianus could be translated into the crypt, it was only in 1184 that the church was consecrated by Pope Lucius III. In 1209 the great southern portal was commenced, and about this same time the rose window was pierced in the façade. Henry of Campione finished in 1319 the octagonal spire of the campanile. In comparatively modern times the galleries were suppressed, chapels and various accessory buildings were added, and the present rib vaults, very lightly constructed and sustained by tie-rods, were erected. The present three aisles are separated from the three apses by transepts which do not project and which are included in the sanctuary. The supports consist of compound piers of several orders alternating with columns; there were doubtless originally transverse arches and a wooden roof. The exterior is adorned with several fine Lombard porches, and the façade is decorated with arched corbel-tables and pilaster strips. The Tuscan character of the rich decoration is unmistakable. (Dartein, 427; Rivoira.)

PIACENZA, Emilia. *S. Antonio.* This interesting church is of ancient foundation. Partially destroyed by the fortune of war in 924, it was entirely rebuilt in the first years of the IX century, the new building being consecrated in 1014. Some

[1] Marmoribus sculptis domus haec micat undique pulchris,
Qua corpus sancti requiescit Germiniani,
Quem plenum laudis terrarum celebrat orbis,
Nosque magis quos pascit, alit, vestitque ministri,
Qui petit ic veram membris animaeque medelam.
Ingenio clarus Lanfrancus doctus et aptus,
Est operis princeps huius rectorque magister,
Quo fieri cepit (demonstrans littera presens)
Ante dies quintus junii tunc fulserat idus
Anni post mille domini nonogenta novemque.
Hos utiles facto versus composuit anno.
Bocalinus Massarius sancti Germiniani hoc opus fieri fecit.
— cit. De Caumont, 85.

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portions of this second church still survive, though much altered in the XIII century. The existing edifice is a three-aisled basilica with three apses, and is remarkable for its square western transept. This transept is preceded by a porch. Over the crossing rises an octagonal tower supported on four great piers and eight intermediate columns. The nave is at present covered with sexpartite pointed vaulting. Since the supports are all cylindrical (except the two middle ones which are compound piers), it is evident that they were not intended to support the present vaults. Perhaps they follow the lines of the XI century church, which may have had a single transverse arch. The exterior is characterized by shallow buttresses and ornamental shafts. (Osten XXIV.)

Duomo, begun in 1122 by Bishop Aldo,[1] was finished only in 1233, by the architect Rainaldo Santo da Sambuceto. In 1564 the present portico was added, but this feature was considerably altered in 1775. Only the choir of the existing edifice seems to date from the XII century, the remainder of the building showing clearly the characteristics of the Gothic style. The three compartments into which this choir is divided are unequal; the central aisle is prolonged beyond the apses of the side aisles on which it opens by two unequal arcades. The transepts are in three aisles. In the nave the supports are cylindrical except for a few which have a single engaged shaft, and the vaults are pointed. The façade retains somewhat of a Romanesque character, being adorned with galleries, Lombard porches, and buttress shafts. Similar galleries, arcades, and shafts decorate the apses externally. (Osten XX–XXIII.)

S. Savino, a church of unknown date, is constructed on the alternate system with groin vaults. The archivolts are in two orders, although most of the other profiles have plain rectangular sections. There is a clearstory, but no triforium gallery. The exterior is unrelieved by buttresses. (Dehio, taf. 163a.)

COMO, Lombardy. *S. Abondio.* (Ill. 110, 115). Excavations executed in 1863 laid bare beneath the present structure the foundations of the earlier church of Ss. Pietro e Paolo. These foundations, still visible, belonged to a church of a single aisle, with deeply projecting transepts, and a semicircular apse preceded by an oblong bay. Two long halls placed at the side and with no opening towards the chevet were reserved probably for catechumens and penitents. Three doors opened in the nave, while two others gave access to the lateral halls. There were thus five doors in the western façade, which was preceded by a narthex. Stones bearing inscriptions (mostly epitaphs of the V and VI centuries) were used to form the pavement. This primitive church is usually assigned to the V century. Dartein believes that work on the present edifice was commenced in 1013, when Benedictine monks were installed; Sig. Boito also maintains that the building must have been begun before 1027, for in this year certain citizens of Milan made a donation in honor of S.

[1] On the wall of the façade may still be read an inscription to the following effect, the letters painted, not cut, and consequently without doubt restored: — "In the year of Christ one thousand, one hundred and twenty-one, this praiseworthy temple was begun."

Centum viceni duo XPI mille fuere
Anni cum ceptum fecit hoc laudable templum.
— cit. De Caumont, 71.

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Abondio, doubtless that the building might be continued. At all events the construction must have advanced slowly, for the consecration was not celebrated until 1095, or eighty years after works were begun. The present edifice is a basilica of five aisles of three different heights. The choir which is much prolonged is flanked by two campaniles, one of recent construction. Except for the groin vaults of the choir the church is roofed in wood throughout, and the only transverse arch is in the last bay of the nave. The supports are columns much heavier in the inner than in the outer rows and supplied with capitals mostly of the cubic variety. At the west end of the nave is a sort of interior narthex in two stories. The façade, one of the most structural in Italy, is divided by buttresses into five parts corresponding to the aisles. Like the rest of the exterior it is lavishly adorned with arched corbel-tables and pilaster strips. (Dartein, 312; Boito.)

S. Carpoforo. The plan of this church is irregular, including at present only two aisles, though doubtless there were originally three. The groin-vaulted choir is long and much raised; the main apse (which is deflected) is separated from the side apse (beyond which it projects) by a solid wall. The nave is separated from the side aisle by square piers, two of which are quatrefoiled to carry the transverse arches. The intercolumniation is very irregular. A curious disposition recalling S. Antonio of Piacenza is the placing of the transepts nearer the façade than the apse. The whole edifice is remarkable for its poverty of decoration. In a manuscript of Bishop Ninguarda the consecration of the church by Bishop Litigerius is recorded as having taken place on June 28, 1040. This tradition, which agrees well with the style of the monument, is in some sort confirmed by the fact that even yet the anniversary of the consecration is celebrated on June 28. The campanile probably dates from the end of the XI century; the apse is assigned by Dartein to the second half of the XII century. (Dartein.)

S. Fidele, a church of much esthetic interest, occupies the site of an ancient basilica dedicated to Sta. Eufemia. In the first years of the XI century the relics of S. Fidele were placed in this basilica whose name was in consequence changed. The same event probably occasioned the reconstruction of the church, although to judge from the style of the present monument this rebuilding could hardly have taken place before the XII century. The plan of the existing edifice is unique. A very short nave is flanked by two side aisles, which are groin-vaulted and carried around the wide semicircular transepts in compartments alternately square and rectangular. Galleries surmount the aisles and are continued even around the apse, where they are constructed in the thickness of the wall. The nave is at present barrel-vaulted, but this vault is a modern alteration replacing the original wooden roof, which was probably carried by transverse arches. The supports are piers, all quatrefoiled except those of the crossing which are in many orders. The crossing, transept ends, and apse are covered with cloistered vaults which are expressed externally, giving the building somewhat of a Byzantine appearance. Four transeptal absidioles exist, but do not appear on the exterior. The external decoration consists of arched corbel-tables, shafts, pilaster strips, buttresses, and galleries. A relic of the ancient Carolingian church survives in the campanile. (Dartein, 345.)

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S. Giacomo. According to Barelli this church must have been constructed after 1095, the date at which S. Abondio was finished, since it evidently copies the latter edifice, and before 1117, the year in which began the ten years' war between Como and Milan. S. Giacomo, originally the largest church of Como — the length was 64.10 meters — has now lost the six westernmost bays of its nave, and the little that survives of the ancient edifice has been much modernized. The vaults — except those of the apse and of the transept ends — are modern; the entire church was probably originally roofed in wood. The western façade was flanked by two towers. (Dartein, 340.)

CIVATE, Lombardy. *S. Pietro*, according to tradition, was founded by the Lombard king Desiderius (756–774). The abbey is first mentioned in an historical document of 927. About the beginning of the XI century the monastery of S. Pietro changed name, and was placed under the invocation of S. Calocero, after the translation of relics of this saint from Albenza. Already the abbey had become rich and powerful, and the monks, doubtless tired of the long climb, established themselves around the new church of S. Calocero, built at the foot of the mountain. However, they did not entirely desert their old sanctuary, S. Pietro, for several alterations were subsequently executed upon that church. One of these must have amounted to rebuilding completely the edifice. Excavations undertaken in 1881 laid bare, between the present altar and the crypt, and placed at an angle with these, the remains of an ancient confessio, which must have belonged to the VIII century church. These excavations have made it evident that the present edifice with its two apses is a homogeneous structure; that it cannot be earlier than the XII century; and that the existence of the western apse is caused by the crypt, necessarily placed further down the sloping hillside, while the eastern apse was built in its present form for the purpose of opening the main doorway to the eastward. The church is of a single aisle. The interior retains its original decoration in stucco; the exterior walls are divided by slender pilasters ending in arched corbel-tables. (Dartein, Note B, 515, also 40.)

Battistero is a little building consisting of a square hall (which never seems to have been vaulted) enlarged on three sides by semicircular apses and on the west by a rectangular vestibule. This structure, to-day desecrated, is commonly known as the chapel of St. Benedict. There is so little decoration that it is impossible to assign a date to the building. (Dartein, 35.)

MONTEFIASCONE, Umbria. *S. Flaviano.* The date of the foundation of this very important monument is uncertain. A bull of Leo IV (845–857) confirming to Omobono, Bishop of Toscanella, the jurisdiction of all places subject to his diocese implies that in these times the church of Montefiascone was dedicated to the Virgin. The present building dates only from 1032, as is known from the Latin inscription that may still be read on the façade of the church. The edifice was partially rebuilt in 1262–65 and again in the XIV century. The plan is externally a rectangle, but internally a polygon, from three of whose unequal sides diverge radiating apses. The side apses are in thickness of the wall, but the central one projects. The aisles are covered with ribbed vaults, probably the oldest known, and the compound piers are supplied with running capitals. (Rivoira.)

S. Andrea is assigned by Comm. Rivoira to 1032 on account of its resemblance to

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S. Flaviano. The three aisles are separated by four massive and stubby columns, and were originally roofed in wood. Transverse arches formerly spanned the nave. In the façade is a door which seems to have been preceded by a Lombard porch — according to Comm. Rivoira, the earliest known example of this feature.

CAVAGNOLO, (Monferrato), Piedmont. *S. Fede al Po.* This ancient abbey church, now desecrated, is assigned to the XII century. The façade is preceded by a Lombard porch. The decoration shows clearly French influence, the billet moulding, ringed shafts, and other foreign ornaments being found. Most peculiar is the system of vaulting, the nave being barrel-vaulted, with transverse ribs and a logical system, while the crossing is groin-vaulted. (Dartein, 448; Biscarra.)

BONATO, (near Bergamo), Lombardy. *Sta. Giuliana* is much ruined, having been used for a quarry from 1745 to 1814. The nave seems to have been four bays long, but these bays are of unequal length, so that while in the two westernmost the nave is oblong in its compartments, and the aisles square, in the two easternmost the case is reversed. There remains no trace of vaults which may never have been built, though the piers are compound with an extra order. The apse is externally decorated with arched corbel-tables and shafts. The general character of the edifice shows undoubtedly the style of the XII century.[1]

BRESCIA, Lombardy. *Duomo Vecchio.* See p. 177.

Sta. Giulia. The chapel of Sta. Giulia, belonging to the monastery of S. Salvatore, is said to have been founded about 753, but was certainly rebuilt in the Lombard period. The building is square in plan (30′ × 30′) and in two stories: the upper is covered with a Lombard cloistered dome; the lower with groin vaults supported by a central pier. From the east side of the church open three equal semicircular apses. The decoration is in pilaster strips and arched corbel-tables.

ALMENNO, (north of Bergamo), Lombardy. *S. Giorgio.* This basilica consists of a wooden-roofed nave three bays long flanked by two side aisles and terminating in a choir whose single bay is rib-vaulted and supplied with groin-vaulted aisles. There is a single apse. The piers are square except in the choir where they are quatrefoiled. The choir is richly ornamented — so much more so than the nave that one almost suspects that the apse has been later rebuilt. Osten assigns the church to the XI century, but Dehio is certainly correct in stating that "it belongs to the final period of the Lombard style."

Madonna del Castello. The nave, two bays long, is separated from each side aisle by a rectangular pier, and is covered with a barrel vault. The choir, which owing to its situation is deflected, is two bays long, the partition wall being replaced by a column with an architrave, the latter modern, but a reproduction of the original one. This choir which has a square east end is groin-vaulted. There is no clearstory. Mario Lupo cites a testament, which proves that in 975 there existed at Almenno a church dedicated to Sta. Maria e S. Salvatore, and in consequence Dartein assumes

[1] If in Pavia, the monument would seem slightly anterior to S. Pietro in Ciel d' Oro (1132). The style of rural edifices was so backward, however, that I should hesitate to assign this church of Bonato to a date earlier than the middle of the XII century. Dartein with evident error ascribes it to the end of the XI century.

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that the present edifice is anterior to the year 975. The style, however, certainly indicates a date not later than 1000.

S. Tommaso in Limine. There is no documentary evidence for the history of this circular church, which Dartein rightly assigns to the XII century. The octagonal nave is surrounded by circular aisles and galleries, and is crowned by a dome. To the east is a much lengthened choir terminating in an apse. The groin vaults of the aisles and gallery are carried around the circle by means of broken groins. The columns of the gallery have stilt-blocks. Externally the apse is adorned with a double arched corbel-table on shafts. The windows are small and in many orders. (Osten.)

ARSAGO, (near Somma, between Milan and Gallarate), Lombardy. *S. Vittore* is a simple wooden-roofed basilica, whose three aisles terminate in three apses. The system is alternate, the intermediate supports being columns, three of which are furnished with pilfered capitals. The façade is preceded by a sort of narthex roofed in wood. There is no documentary evidence for the date of the building which may be assigned to the XI century.

Battistero. There is no documentary evidence for the date of this monument which is correctly assigned to the XII century by Dartein. The plan is peculiar. On the ground floor the walls, in which are cut great niches, are of fairly Roman massiveness. The upper story is as light in construction as the lower is heavy, a gallery being cut in the thickness of the wall. This gallery is covered with broken groin vaults; the central area is vaulted with a cloistered dome. The system consists of a shaft engaged on the piers, carrying an arched corbel-table at the triforium level. The exterior is plain, being ornamented only with arched corbel-tables. (Dartein, 395.)

Monuments of the Third Class

VAPRIO, (on the Adda), Lombardy. *S. Colombano* is an interesting monument which has, however, much suffered from neglect and restoration. The single nave, spanned by a great transverse arch, is nearly square in plan, and adjoins the choir, which consists of a semicircular apse flanked by two square chapels. These chapels are groin-vaulted, but the rest of the church is roofed with wood. The piers of the choir are compound. Externally the apse is decorated with arched corbel-tables supported by shafts. Dartein assigns this monument to the XII century; the style, however, is clearly that of the last part of the XI century. (Dartein, 380.)

SCOZZOLA, (near Sesto Calendo), Lombardy. *S. Donato* was founded in 862 by Luitard, Bishop of Pavia. The present edifice consists of two distinct constructions — a church, and a very much extended narthex. The church seems to date from early in the XI century, and is anterior to the narthex.[1] It consists of three

[1] Dartein holds the opposite view. I quote his argument on the subject: "Il [le porche] est d'ailleurs plus ancien que celle-ci [l'église]. La preuve en est dans l'élargissement donné à ses derniers piliers en vue d'y rattacher les premiers supports de la basilique. Car si le porche, construction accessoire, eût été construit après l'église, l'on eût donné d'emblée aux supports qui le séparent de celle-ci une forme analogue à celle qu'ils ont reçu finalement par retouche." Of the value of this argument it is impossible to judge without an examination on the spot. The style of the two parts of the church, however, seems to contradict it absolutely.

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aisles, as many apses, a crypt, and a raised choir, and is entirely roofed in wood (except for the choir and the crypt). The technique is remarkably poor. The rectangular piers resemble those of the Carolingian church of Agliate. As for the narthex, this is of about the same width as the church, is two bays long, and is divided into three nearly equal aisles not at all corresponding to the aisles of the basilica. The groin vaults are peculiar in being supported by columns. (Dartein, 383.)

VERTEMATE, Lombardy. *S. Giovanni Battista.* This little church, situated five kilometers south of Como near the station of Cucciago, was built about 1084 by a monk of Milan, named Gerard, and consecrated in 1107 by Odo, Bishop of Imola. Three aisles are separated from as many apses by non-projecting transepts. The supports, except those of the crossing which are the compound piers, are plain columns. The nave which is without transverse arches is roofed in wood, but the aisles are vaulted, and there is a cloistered dome over the crossing.

GRAVEDONA, (Lake of Como), Lombardy. *Sta. Maria del Tiglio,* the baptistery of S. Vincenzo, is assigned by Dartein to the end of the XII century, but the style is clearly that of the late XI century. This Lombard edifice was possibly constructed with materials coming from the church of the VI century. The plan is most peculiar, including no less than seven apses. The central square area opens on three sides into semicircular apses. In the walls of the large eastern apse are three lesser apses, and two others, also in the thickness of the wall, are placed on either side. Above the clearstory is a wooden roof; below, on two sides, there is a triforium gallery in the thickness of the wall. The exterior is characterized by the campanile which rises directly over the portal and is very richly decorated. The baptistery itself is ornamented externally with arched corbel-tables resting on very slight pilaster strips. (Dartein, 364.)

S. Vincenzo. The modern single-aisled church preserves the exterior walls and the crypt of the ancient three-aisled Lombard basilica. These débris are evidently of the XI century, and hence doubtless formed part of the edifice which, according to Tatti, was consecrated in 1072. The Lombard church, which had a western gallery or narthex like that of S. Abondio, seems to have been entirely roofed in wood. (Dartein, 364.)

SUSA, Piedmont. *S. Giusto,* the cathedral, is an unusual building, having the plan of a Greek cross. It is said to have been consecrated in 1028. The campanile, which dates from 1026, offers the earliest example of the abacus of a column splayed to carry the thickness of the wall. (Rivoira, 299; Biscarra.)

Sta. Maria adjoins S. Giusto, with which it is usually believed to be contemporaneous. The façade is flanked by two towers — one of the earliest instances of this arrangement unusual in Italy. (Rivoira.)

VEZZOLANO, Piedmont. *Sta. Maria* is an abbey church whose cloister is of especial interest. There is a tradition that this monument was founded by Charlemagne and rebuilt in the XI century — a tradition to a certain extent confirmed by an old painting in the cloister, representing Charlemagne invoking the Madonna. The monument has never been adequately described. (Biscarra.)

BOLOGNA, Emilia. *Sto. Stefano Rotondo.* This abbey was founded by S.

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Petronio who, according to Sigonio, was bishop of Bologna from 429 to 449. In 903 the monastery was burnt by the Hungarians; it was rebuilt in 1019. In 1141 the walls of the rotunda were torn down to be reconstructed more strongly, and in 1475 other alterations were carried out by Niccolò Sannuti, whose arms (three wings) may be seen many times repeated on the walls. The present structure includes no less than seven distinct edifices as follows: — 1. S. Sepolcro; 2. Ss. Pietro e Paolo; 3. Chiesa degli Confessi; 4. Chiesa del Santissimo Crocefiso; 5. Atrio di Pilato; 6. Chiesa della Sta. Trinità; 7. Cloister of Sto. Stefano. Of these only the two first need occupy us here. S. Sepolcro consists of a duodecagonal central area surrounded by a side aisle. Five of the supports are cylindrical, seven are formed of coupled columns, and all carry archivolts in several orders. The nave is covered with a cloistered vault, the aisles with irregular groin vaults; but the galleries are roofed in wood. Double arched corbel-tables supported on shafts mask the springing of the dome. This church evidently dates mainly from the late XI century. — Ss. Pietro e Paolo is a vaulted basilica five bays long, with three apses. The nave is rib-vaulted throughout, the four eastern bays on an alternate system, but the choir is groin-vaulted. The alternate piers are compound, the intermediate have pilfered capitals; the archivolts in two orders are prolonged to the ground. Beneath the vaults is a diminutive clear-story. (Osten XXXVII–XL.)

CASALE MONFERRATO, Piedmont. *Duomo S. Evasio* was founded by Luitprand in 741. Pascal II consecrated the edifice as a cathedral on January 4, 1107, and the present building doubtless dates from this time. The church is constructed of brick and stone in alternate courses, laid with excellent technique. Five aisles terminate in three apses, and are preceded by a most strange and irregular narthex. The structure is vaulted throughout principally with groin vaults, though rib vaults do occur, and the fourth bay of the nave is covered by a Lombard cupola. These vaults are reinforced by external buttresses of slight projection. Northern influence is noticeable everywhere, but especially in the double arcade of the façade, and in the capitals of the compound piers. The exterior of the church is ornamented with the usual arched corbel-tables and pilaster strips. (Osten II, III, IV.)

BERGAMO, Lombardy. *Sta. Maria Maggiore.* An inscription over the porch of this church records that the construction was commenced in 1137 by the architect Alfred, in the reign of Pope Innocent II, when were living the archbishop Roger and the king Lothaire. The apse is richly ornamented with galleries, windows in many orders, and graceful arcades. This ornament — and indeed, the whole composition, — is distinctly Tuscan in style. Rich Lombard porches precede the portals, and date from 1349–50, according to the inscription. The interior has been almost entirely modernized, but the original plan seems to have included transepts and five apses, with an octagonal dome rising over the crossing. (Osten XXXV.)

NOVARA, Piedmont. *Duomo* is a three-aisled basilica with a complete set of side chapels, non-projecting transepts, and a much prolonged choir. The nave is divided into three compartments, of which two are square in plan, but the central one is oblong. Each is covered by a groin vault resting on compound piers (the intermediate supports being columns), and the aisles are vaulted with similar groin vaults

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on a plan oblong in the longitudinal sense. A cloistered dome surmounts the crossing; elliptical domes, the transepts. The false façade is flanked by two campaniles, and is covered with a composition of blind arches, arcades, corbel-tables, and pilaster strips. The peculiar form of the interior vaults is thought to show that an old basilica — perhaps the original Early Christian church erected about 390 — has been remodeled into the present edifice, considerable parts of the original structure being preserved. There is record of a partial rebuilding executed about 1020, but in its present form the edifice must date from the XII century. The atrium is said to have been built in 1124, and it is reasonable to suppose that the church itself was reconstructed about the same epoch. A restoration was carried out in 1862. (Osten XIV–XVI.)

AOSTA, Piedmont. *Duomo.* There is a tradition that this church was founded by Constantine. About the middle of the VI century Goutran, king of Burgundy, repaired or enlarged it.[1] The style of the present nave, however, is clearly that of the early years of the XI century; the aisles are somewhat later, and the vault is an addition of the Renaissance. The cloisters, it is known, were erected in 1540, and the façade in 1522. The three aisles of the XI century edifice terminated in a semicircular apse, which was remarkable in being surrounded by an ambulatory, a continuation of the side aisles. This arrangement finds analogy in Italy only in Sto. Stefano of Verona. The apse was flanked by two campaniles. (Rivoira; Berard.)

S. Orso is a church perhaps of the XII century whose interior has been entirely modernized. The façade has a late Gothic doorway, but the cloister is Romanesque. (Longfellow.)

PADUA, Venetia. *Sta. Sofia.* This church was formerly supposed to be very ancient, but Sig. Orologi has discovered a manuscript in the Archivio Capitolare, which seems to prove that the construction dates from the XII century. This manuscript mentions that in 1123 Bishop Sinibaldo gave certain revenues to the canons of Sta. Sofia, whose church was then in course of construction, in order that they might finish the work, which they had begun.[2] The apse, which is evidently not contemporaneous with the rest of the church, is probably somewhat earlier. This apse occupies the entire width of nave and side aisles; it is ornamented externally with three rows of arcades, of which the upper one is practicable; internally, with sixteen niches, which are separated by half-columns. The three aisles are covered with groin vaults for the most part on an alternate system, though the design is very irregular. According to Ricci, these vaults date only from 1240[3] — but if so, it is probable that they follow the original lines of the earlier edifice. The façade is divided into three sections which correspond to the internal divisions, but the design is otherwise rather

[1] Berard quotes the following lines from one of the ancient martyrologies of the cathedral: "Quinto kl Aprilis. . . eodem die apud Cabilone civitate Galliaru deposito ɒti Goutranni regis francorum instauratoris hui eccne."

[2] Ricci, 171.

[3] In support of this Ricci quotes the following inscription: "1240 ultimo Maji Do. Pr. Gerardinus de Bononia Prior Sanctæ Sofiæ fecit rheidificare Magister Desiderio de Padua Mararius fecit."

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Tuscan than Lombard. The ornament includes blind arcades, engaged arches following the rake of the cornice, horizontal arched corbel-tables, and string-courses. (Ricci, 171; Cummings, 138.)

ASTI, Piedmont. *Battistero*, which may be assigned to the late XI century, shows unmistakable Northern influence. The side aisle, separated from the octagonal domed nave by eight columns with cubic capitals, is covered with groin vaults whose transverse ribs are deeply buttressed externally. There is no gallery. The archivolts are in several orders. Externally there is little decoration save for the inevitable arched corbel-table. (Osten V–VI.)

AGRATE–CONTURBIA, Piedmont. *Battistero.* According to Sig. Mella, the lower part of this structure is Roman (?), the remainder of the XI century. It is a plain building, without aisles or gallery, circular on the ground floor, octagonal above. No carving occurs on the capitals which are of the block variety. The cloistered dome is not expressed externally. The exterior decoration consists of arcades with arched corbel-tables supported by pilaster strips. (Dartein, 401; Mella.)

RANVERSO, (near Rivoli and Turin), Piedmont. *S. Antonio.* This church, which is said to have been founded in 1156 by the monks of St. Didier, in France, was originally constructed between 1188 and the time of Humbert III of Savoy, as is recorded in an inscription preserved in the vestibule of the church. The monument is Gothic, rather than Romanesque, in style.

CORTAZZONE d'ASTI, Piedmont. *S. Secondo.* This little church (which measures only 36.60 × 14.65 meters) situated about twenty kilometers from Asti, may be assigned to the first half of the XI century. Apparently all the vaults which now cover the church are modern, since the absence of shafts internally and of buttresses externally implies a wooden roof. There is a clearstory whose windows are few and very narrow, but there is no gallery. The plan consists of three aisles without transepts ending in three apses. Square piers (one of somewhat fancy section) alternate with columns, whose capitals are crudely carved with grotesques and support archivolts of rectangular section. The exterior ornament consists of arched corbel-tables, pilaster strips, shafts, and a most elaborate cornice. (Mella.)

CREMONA, Lombardy. *Duomo.* Only small portions of the Lombard building of 1129–90 have survived the various restorations through which this church has passed. The Lombard edifice seems to have had three aisles and transepts almost as long as the nave, furnished with side aisles. The system of the nave supports is at present alternate, although the Gothic vaults are oblong. The supports of the transepts are all cylindrical. (Förster, 241; Dehio, taf. 162.)

CHIARAVALLE, Lombardy. *Certosa* was commenced in 1135, although the present edifice is almost entirely Gothic. The supports of the nave are alternately heavy and light, but the piers are all cylindrical in section. There is no gallery. The vaults are all supplied with ribs. (Caffi.)

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Other Monuments

MONTIGLIO, Piedmont. *S. Lorenzo.* The nave is covered with a barrel vault, the aisles with half barrel vaults (now partially masked by the transformation of these aisles into chapels) buttressing the vaults of the nave. This system, entirely foreign to the Lombard style, was doubtless borrowed directly from Auvergne. (Dartein, 448.)

SAGRA S. MICHELE. Piedmont. *Abbazia.* Although founded in the XI century, the present building belongs largely to the Gothic style, of which it is an important monument. (Biscarra.)

VICENZA, Venetia. *S. Lorenzo,* now desecrated. This church, erected before 1185, was remodeled in the Gothic style about 1280. (Arnaldi.)

REGGIO, Emilia. *Duomo.* Traces of the XII century Lombard church may still be seen in the present Renaissance structure. (Willis.)

AIMAVILLE, Piedmont. *S. Legero.* The crypt of this church seems to be of the Lombard period, and consists of two aisles and a semicircular apse with four niches. The barrel vault is sustained by three compound piers. (Berard.)

MONZA, Lombardy. *Duomo.* Of the church which, according to Cattaneo, was founded by Theodolinda in the VII century, only a single sculptured slab remains. The edifice was reconstructed in the XII century, and again entirely rebuilt in the Gothic period.

MANTUA, Lombardy. *Duomo.* The campanile with its pilaster strips and arched corbel-tables, seems to be Lombard in style, although the arrangement of the window openings is peculiar.

MONTECHIARO, (near Asti), Piedmont. *S. Nazaro.* Sig. Biscarra is certainly in error in assigning this church to the X century. The monument, which has never been adequately published, is interesting for its sculpture.

CUNEO, Piedmont. *S. Costanzo* is an ancient Benedictine abbey that has never been properly described. (Mella.)

VARESE, Lombardy. *Battistero.* The present building dates mainly from the XIII century. (Dartein.)

VILLANUOVA, Venetia. *S. Pietro.* This church is referred to by Cattaneo as a monument of the XII century.

OGGIONO, (near Como), Lombardy. *Battistero.* Unpublished.

MORBEGNO, (near the Lake of Como), Lombardy. *S. Martino.*

ALESSANDRIA, Piedmont. *Sta. Maria in Castello.*

LENNO, (Lake of Como), Lombardy. *S. Benedetto.*

Battistero.

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CHAPTER VI

NORMAN ARCHITECTURE

THE school of architecture which grew up in Normandy after the year 1000 differed from the kindred schools which sprang into being elsewhere in Europe at about the same time, in that it was not altogether a gradual and natural development from the local Carolingian architecture which had preceded it. Norman architecture was at first an exotic art, imported from abroad, rather than a spontaneous growth of the native soil. This fact is explained by the peculiar historical and economic conditions of Normandy during the X century.

The Norse vikings, who in the IX and X centuries had descended upon the distracted Carolingian Empire, were little better than pirates. Believers in the most brutal of pagan religions, lovers of destruction for destruction's sake, these barbarous Northmen, wherever they penetrated into Europe, carried with them only devastation. Above all, the churches and monasteries suffered from their attacks; for the religious establishments offered richer plunder than was elsewhere to be found, and the fanaticism of the heathen demanded the destruction of everything pertaining to the Christian cult. In the contemporary chronicles the dull formula is repeated over and over again; on such and such a date, at such and such a place, the church or cathedral or monastery, together with the surrounding town, was burned by the Northmen. Thus the vikings were the enemies of Christianity and of civilization; what they could not carry off as plunder they destroyed.

Nor do matters seem to have greatly improved when the brigandage of the pirates became in a sense legalized, and when in the guise of a fief the province we now know as Normandy was bestowed by the powerless emperor on the conquering Nor-

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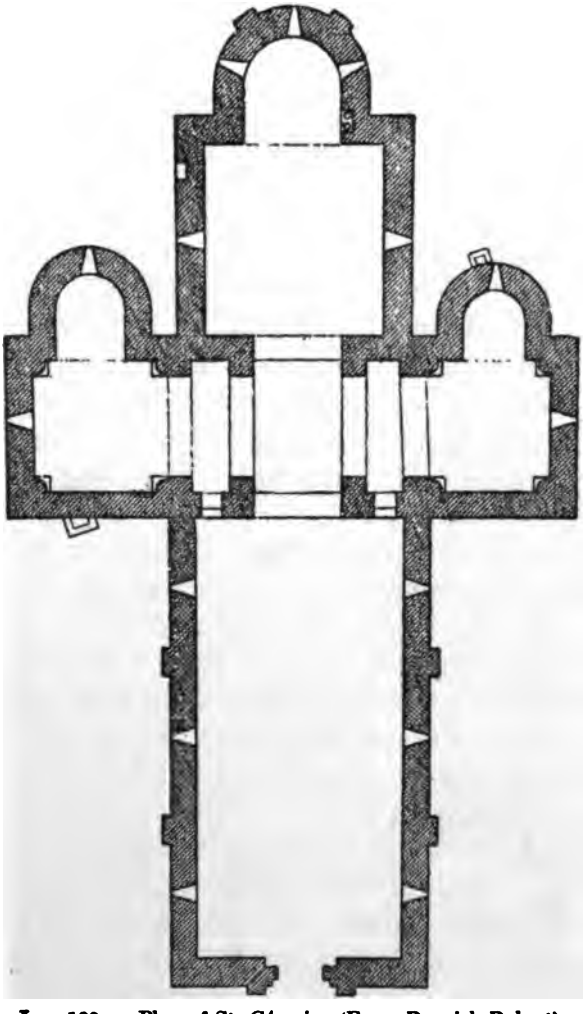
man duke. It is significant that not a vestige of architecture antedating the Norman conquest has survived in Normandy[1]; probably well-nigh every church in the land was wiped out by



Ill. 120. — Plan of St. Céneri. (From Ruprich-Robert)

the savage invaders. Rollo, it is true, as early as 912, embraced Christianity, at least in name. This move, however, seems to have been purely political in purpose, and to have modified not in the least either the morals or the nature of the king and his

[1] Except the Roman ruins at Lillebonne, etc.

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people. In the early years of Richard I (the Fearless, 942–996), the country again relapsed into paganism. Rouen and Evreux, alone of the Norman bishoprics, preserved unbroken the succession of their bishops.

But the peculiar ability of the Norse race to adopt itself to changed environment and to absorb the civilization of other peoples, has always been one of its most happy characteristics. Before long, European civilization and European Christianity commenced to find their way within the borders of Normandy. In 961, Richard I became a Christian and founded the first monasteries — St. Michel, Fécamp, and one or two others. It is strange to find with what enthusiasm Christianity was received when it had once made its way. The same fierce, wild energy that had been turned against the Church in the IX century, was turned to her service at the end of the X. In less than a hundred years the Normans were transformed from the most pagan and barbarous people of Europe into the most Christian and civilized.

The history of the archbishopric of Rouen illustrates strikingly the change in moral tone which took place at the end of the X century. The bishop Hugo (942–989), though a nominal Christian, was a thorough viking. He was married and a warrior; he squandered the episcopal revenues in a conscienceless nepotic policy. His successor Robert, a son of Richard I, was one of the most worldly of prelates, and far more interested in his possessions as Count of Evreux than in his churchly duties. Nevertheless at the end of his long reign he repented of his evil ways, reformed his life, and, as one of his acts of penitence, rebuilt his cathedral church. Malger, who succeeded in 1037, had been a scholar of William of Dijon at Fécamp, and was a whole-souled partisan of the Cluniac movement. From this moment the archbishops of Rouen were men of unimpeachable character, devoted to the reform and purification of the Church.[1]

Similarly over all Normandy, about the year 1000, there swept a great wave of religious enthusiasm. The founding of

[1] Böhmer. *Kirche und Staat in England und der Normandie im XI und XII Jahrhundert.* Leipzig, 1899. 8vo. p. 11. An excellent work to which I am indebted for much that follows.

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ILL. 121. — Jumièges. West Façade

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monasteries became almost a mania. To the four abbeys which existed before the year 1000, there were added before 1066 no less than twenty great monasteries for men and six convents for women. So many were the monks, that the edified contemporary, William of Poitiers, compared the country to Egypt in the IV and V centuries.

The rise of the monasteries brought about a great revival of learning, whose effects, however, came to be fully felt only towards the middle of the XI century. The schools of Normandy became renowned throughout the West; students flocked from the remotest parts of Europe to listen to the Norman doctors. Not even Cluny herself could rival in learning the fame of Bec, of Fécamp, or of Jumièges. Normandy became the recognized fountainhead of scholastic theology, in which was summed up the intellectual attainment of the XI century.

All this resulted in breaking down, to a large extent, the isolation in which Normandy had hitherto stood in relation to the rest of Europe. By the end of the X century she had ceased to be a nation of pirates living apart. She had adopted the Christianity of her near neighbors and with it, naturally enough, their civilization. But by the middle of the XI century, Normandy had still farther broadened her vision; she had become conscious of the fact that she was playing a part, and a leading part, in the civilization of Europe. Cluny, the great force of the age, found in Normandy her most fertile field of growth, and Cluny looked with steady, undeviating gaze, over the Alps, to the broad plains of Italy.

As Norman civilization was thus influenced by nations farther and ever farther removed from her frontiers, so also was her architecture. When, at the end of the X century, Normandy adopted the Christianity of her next door neighbors, she naturally adopted with it the Carolingian basilica, which these neighbors used for the celebration of the Christian cult. But when, about the middle of the XI century, Normandy became conscious of a world destiny; when there was a constant interchange of scholars and monks between the Norman schools and even the most remote provinces of Europe; when Normandy had become the favorite child of the great world-power, Cluny —

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then Normandy perceived and imitated the architectural progress of nations even far removed beyond her own borders. At this time there was no other country in Europe that for architectural attainment could compare with Lombardy. Therefore it was chiefly to Lombardy that the Normans turned for inspiration for their own buildings. They adopted what was vital in the Lombard style, combined this with what they had already borrowed from their French neighbors, and added besides a large element of their own strongly national character; hence arose those magnificent monuments of the second half of the XI century that still dot the plains of Calvados and of the lower Seine.

One of the most marked peculiarities of this architecture of the XI century, is its almost exclusively monastic character. There are, it is true, a certain number of parish churches that have come down to us, but the important monuments are always the abbeys. In fact, the Norman Church in the XI century seems to have been monastic to an extraordinary degree. The awakening of religious enthusiasm in Normandy happened to coincide exactly in point of time with the spread of Cluniac ideas in Europe. Thus the two became inseparably united. The monks of Cluny stood for the chastity of the clergy, the abolition of simony, the general reform of the Church; the lay clergy stood for the opposites. It is not surprising that the intense religion of the Normans preferred monk to priest, and saw in the monastery the highest ideal of the religious life. The lay clergy, therefore, however envious they might be of the monastic orders, were forced into the background.[1] In time they became almost entirely subjected to the monasteries, losing all semblance of temporal power. Thus the Norman church in the XI century was entirely under the influence of the monastic ideal and that the ideal of Cluny.

In one point only the teaching of Cluny failed to influence Normandy. The papal claim to the temporal supremacy of Christendom was never recognized by the Norman church. Owing partly to the extraordinarily cordial relations that

[1] The duke in the XI century made and unmade abbots at his will. This broke at once the power of the bishops, whose influence became positively less in the enthusiastically religious XI century, than it had been in the half pagan X century. See Böhmer, *op. cit.*, p. 26 seq.

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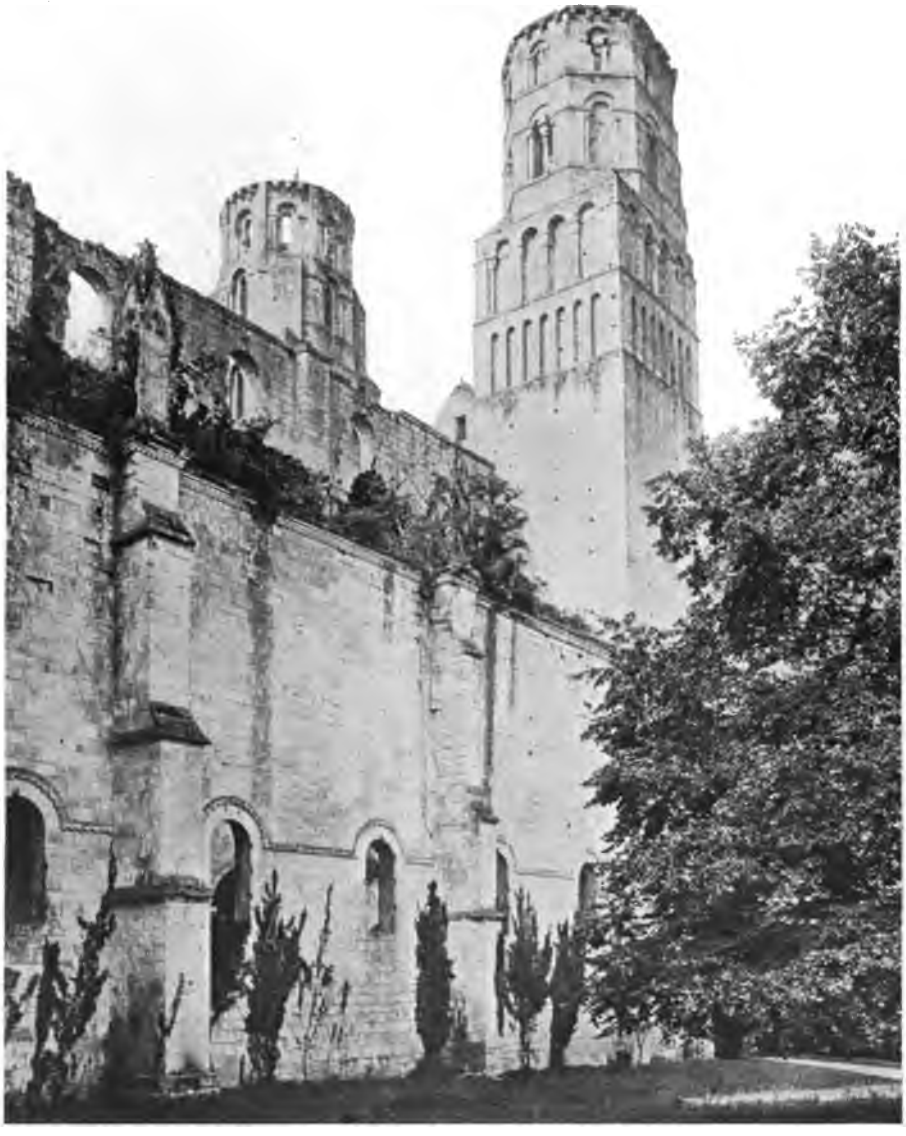

ILL. 122. — Jumièges. From the North

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existed between William the Conqueror and the Holy See, especially during the pontificate of Gregory VII (1073–1085), and partly to the great burst of national pride which followed the conquest of England (1066), the Norman Church managed always to remain independent of Rome. The right of investiture by the duke was never seriously disputed at a time when this question was distracting the Empire; William appointed abbot and bishop at his will, and no one thought of "free choice." Norman bishops could go to Rome or to a council only with the express permission of the duke; papal legates but seldom visited the land. Thus the Norman Church was earnest and pure; but it was ruled by the duke and not by the pope.

All this was changed after the death of William the Conqueror (1087). The middle of the XI century is the apogee of the order of Cluny. Soon after, its prestige began to wane, and signs of decadence appeared. The rapidly increasing wealth of the abbey enfeebled its fervor and caused its discipline to be relaxed. The work of reform fell to fresher and more energetic hands; new and more zealous orders superseded the old.

A natural consequence was the waning of religious enthusiasm in Normandy. This was perhaps increased by the quarrel between the Church and Robert, eldest son of the Conqueror, to whom his father left the duchy of Normandy. Robert appropriated without scruple the ecclesiastical revenues, and so far did he fail to safeguard the property of the Church from the lawlessness of the times, that the clergy were obliged at the council of Rouen in 1096 to take measures for their own military protection.[1] Even this, however, did not suffice, especially against the rapaciousness of the king, who continued to oppress and rob the Church without mercy.

That an ultramontane party did not immediately spring up, must have been due to the enduring foundations laid by the Conqueror as well as to the fact that the Norman Church had lost its zeal for reform. The Cluniac movement in Normandy had spent its force, and the Church had already settled back into worldly ways, with hardly a trace left of the brief enthusiasm that had seized it so powerfully a century before.

[1] Böhmer, *op. cit.*, p. 142.

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In short, there was need of a reformation, but this was not begun before about 1120.

Far different forces were brought into play when this cleansing of the Norman Church did occur. Normandy, instead of reforming Europe, was now reformed by Europe, and especially by the pope. Cluny had been supplanted by Clairvaux. And most important of all, the reform carried with it the denationalization of the Norman Church. The reformers were all strongly ultramontane; they strove not so much for the purity of the Church as for the temporal interests of the papacy. Hence began that long and bitter struggle between king and Church — a struggle whose scene of action centers in England, but which was far from leaving Normandy unaffected. Commenced by Henry I and Anselm, the strife passed through various stages during the troubled years of Stephen and Matilda, until it culminated under Thomas à Becket and Henry II in the defeat of the king (1170). During this long struggle, the people — or at least the upper classes — sided with the king; and while, it is true, the masses never forgot their religious enthusiasm, it is perfectly evident that the national character of the Norman Church had been lost. This Norman Church now turned for support, no longer to the Norman duke, but to the Roman pope. Its ideal had become the strongly Gregorianized church organization of France; and to France it looked for models of administration and culture. The Norman schools had long since fallen into disrepute; instead of the foreign scholars who formerly thronged to Normandy for instruction, Norman scholars now went to France. Such was the transformation that had been wrought in the character of the Norman Church in less than a century.

This transformation would be sufficient to account for the relaxation in building activity in Normandy during the XII century. There were, however, other causes which contributed to this result. The condition of the country was much unsettled after the death of the Conqueror. The reign of Robert (1087–1116) was a period of wretchedness, during which Normandy relapsed into feudal violence and the extreme of misery. Soon after (1135–54) the land was distracted by the civil wars of

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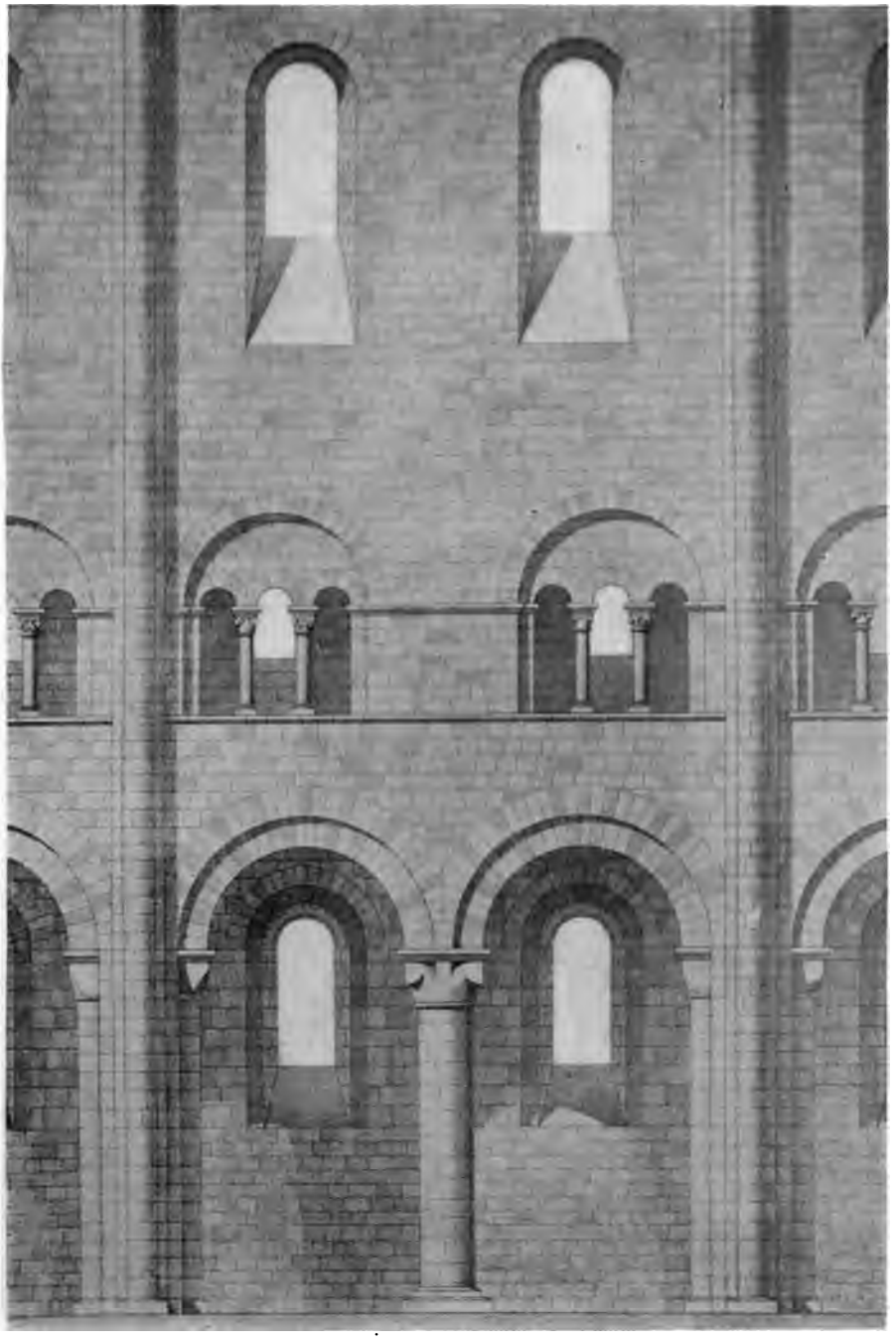

ILL. 123. — Jumièges. Elevation of System. (From Ruprich-Robert)

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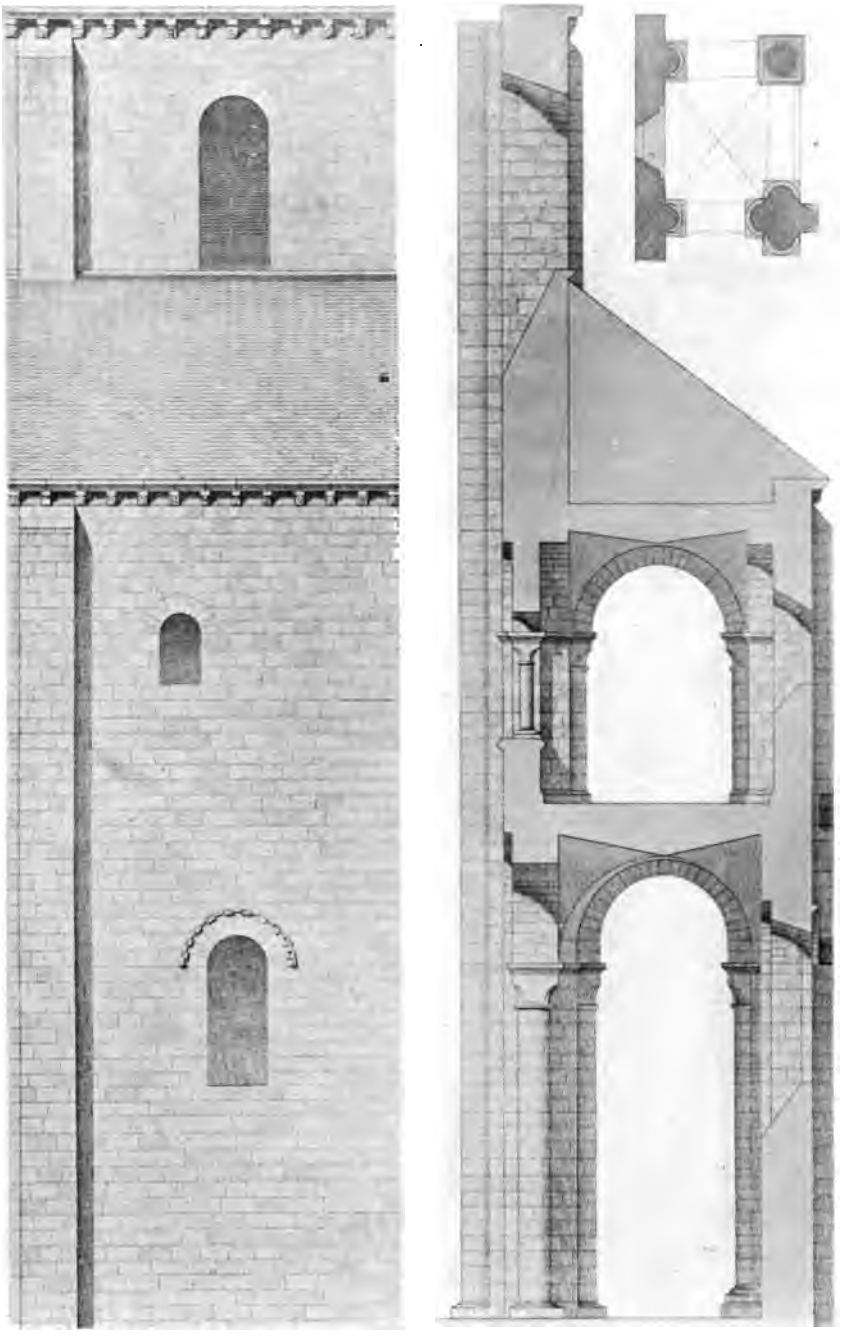

ILL. 124. — Jumièges. Exterior Bay and Section. (From Ruprich-Robert)

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Stephen and Matilda. Scarcely was this unhappy period over, when the storm clouds commenced to gather for the wars of Capetian and Plantagenet; wars in the course of which Normandy, the natural battle-ground, suffered from repeated pillage and ruin. Hostilities broke out in 1167, and lasted until 1172; they were renewed in 1188, and once more from 1194–99. The struggle ended only when Philippe-Auguste conquered Normandy and united it to the French crown (1203–04).

A further cause for the decline of Norman architecture in the XII century was the peculiar position Normandy occupied in regard to England. In 1066 it had been Normandy that conquered England; the lesser power overcame the greater. But in the XII century this condition was exactly reversed. The Conqueror himself had entered the wedge when he divided his realm, leaving Normandy to Robert, and England to William II. From that moment England became the main seat of the Norman kings, and when the two realms were again united in 1116, Normandy became more and more the subject province. Owing to the great power of assimilation possessed by the Normans, the conquerors of England speedily amalgamated with the Anglo-Saxons to form a new nation, — a nation differentiated by race, customs, and language, from the Normans of the continent, who tended rather to assimilate with the French. Thus the English kings always made the interests of Normandy subservient to those of England. Normandy was robbed of her best to supply the island kingdom. We find no more in the Normandy of the XII century, the great men, the creative and organizing geniuses, the Lanfrancs, the Anselms, the Odos, who had thronged the court of the Conqueror. All who in any way rose above the mass at once followed their ambition across the Channel, or were summoned thither by the king. Normandy furnished England with a regal list of bishops, abbots, scholars, and statesmen; but she was allowed to keep none for herself. And similarly not only in men, but in wealth, the best of Normandy was drained into England.

All these causes combined to produce the great relaxation of building activity that took place in Normandy during the XII century, a relaxation which is the more striking in that it occurred

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at the same time that the countries around Normandy — the many provinces of France, the Rhineland, and England — were showing unprecedented activity and attainment in architectural lines. Only one important monument of the XII century — the cathedral of Bayeux — has come down to us in Normandy, and this was never fully completed until the Gothic period. Unquestionably many buildings of this epoch have been lost, having been rebuilt or destroyed in later times, and it must always be remembered that we have many parish churches of small size, but often of exquisite design. Yet, when all allowances have been made, the monumental poverty of Normandy during the XII century is most marked.

This curious relaxation of building activity after the early bloom of the last half of the XI century is strangely parallel to the lapse which occurred about the same time in the Lombard style. Like Lombardy, Normandy grasped the torch of architectural progress and advanced it rapidly for a moment, only to let it suddenly fall. In one point, however, the two styles are in striking contrast. Architecture never declined in Normandy — never, indeed, stood still. Important buildings ceased to be built, and Norman architecture never reached the goal to which it had been tending; but, on the other hand, progress once scored was never relinquished. Throughout the XII century, detail continued to be elaborated and refined; stone-cutting and technique constantly improved; and, in at least one very essential direction, structural advancement of the most notable kind was made. Thus Norman architecture does not leave upon the mind that keen feeling of disappointment which is experienced in studying the Lombard buildings of the same time; and we shall find that the Norman architectural genius, far from being dead, was ready to arise to new triumphs under the more favorable conditions of the XIII century.

This architecture of the XIII century was distinctly inspired by the Gothic of the Ile de France. Norman art, as well as the Norman nation, had become French long before the French conquest. If, in 1204, Philippe-Auguste was able in a single campaign to add to his realm a province almost as large as his original domain, it was because Normandy had already been

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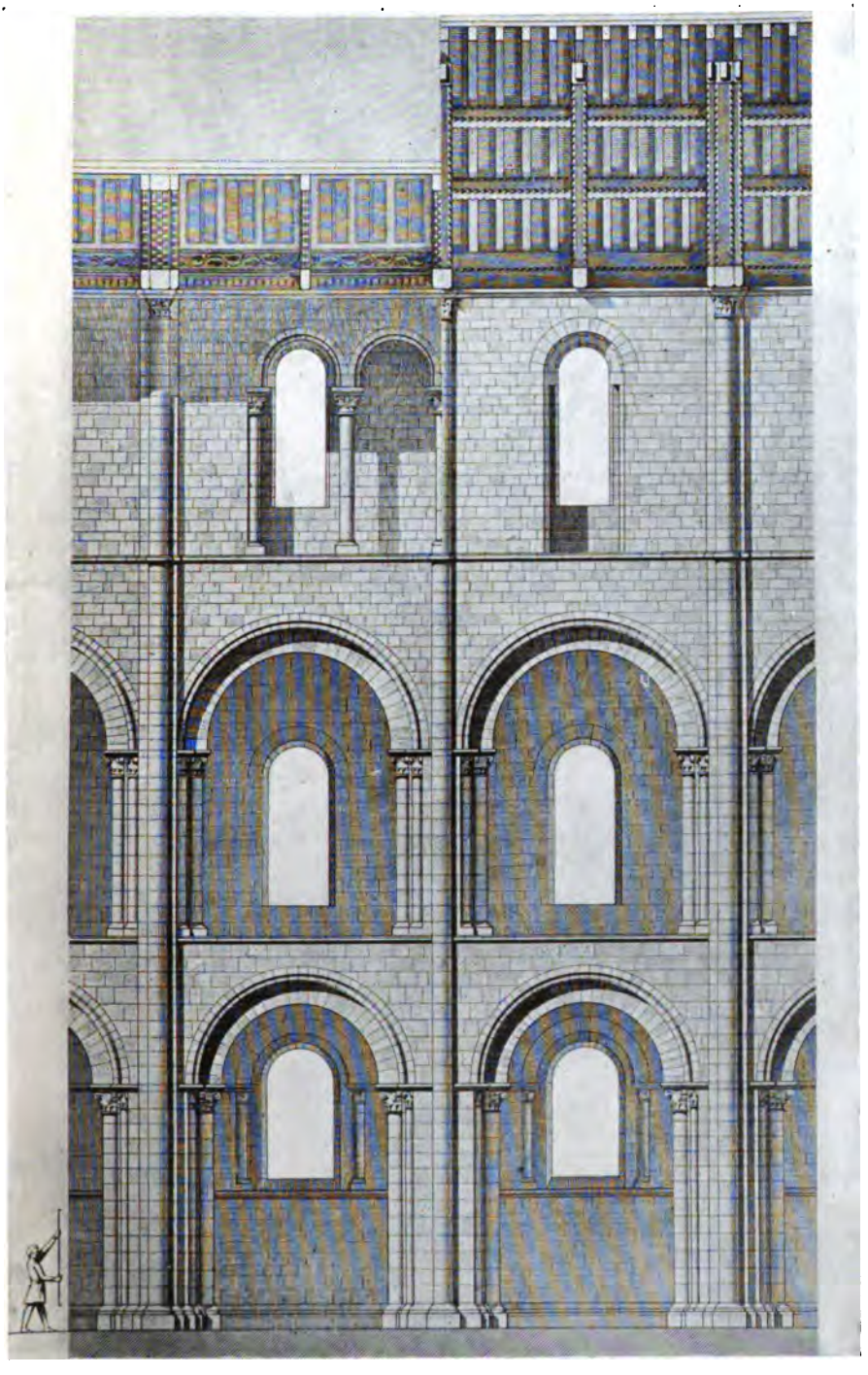

Ill. 125. — Abbaye-aux-Hommes, Caen. Interior as restored by Ruprich-Robert

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conquered by French influence. The main causes which fostered this French affiliation—the strong ultramontane tendencies of the Norman church, and the gradual separation of Normandy and England—have already been touched upon. Even before the nation, the Norman church had become thoroughly Gallic. Thus the ecclesiastical architecture of Normandy fell under Gothic influence half a century before the conquest of 1204. As early as 1144, the Norman prelates who journeyed to France to take part in the consecration of St. Denis,—"the first of the Gothic monuments"—were doubtless vividly impressed with the beauties of the new art; at all events only a few years later, part of the cathedral of Rouen was rebuilt in the style of the Ile de France. Fécamp and the Abbaye Blanche of Mortain were soon after built in the new style, and after 1155 various elements of the Ile de France, such as the pointed arch or the quadripartite rib vault, occur sporadically, but with ever increasing frequency, in the rural architecture of the province. The Norman style, however, relinquished but very slowly its grip, for as late as 1220[1] certain edifices still betray Norman characteristics. It is noteworthy that the Gothic style became fully established in Normandy later than in England—a curious fact, considering the propinquity and close relations of France and Normandy. The generally backward development of Norman architecture at this period doubtless accounts for this. In the end, however, Normandy did accept the Gothic style, and modified it to form a singularly beautiful local school. This school may conveniently be taken to be established, and consequently the Norman style to end, at about the time of the French conquest in 1204.

Norman architecture, as has been said, is derived from three main sources: from Carolingian tradition, from the Lombard style, and from certain original elements added by the Normans themselves.[2] We know from literary sources that churches had

[1] *e. g.*, Bougy.

[2] M. Ruprich-Robert has tried to show that these Norman elements were brought by the vikings from Scandinavia, and had eventually come from the Orient. The Scandinavian wooden churches, on which he based his argument, are, however, now known to be later than, and in fact derived from, the Norman buildings of the continent. The strangely oriental character of

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begun to be erected in Normandy in the X century, and that there was considerable building activity during the first half of the XI century. Unfortunately, however, except St. Pierre of Jumièges nothing of the X,[1] and but very little of the first half of the XI century, has come down to us. Norman art at this period was still in its infancy; and its productions seemed so crude and unworthy to later ages that they were almost without exception torn down and rebuilt. From what does survive from the early XI century,[2] however, the conclusion seems justified that at first the Normans merely continued Carolingian tradition. The only apparent advance over such types as Montier-en-Der (Ill. 100), or the Basse Oeuvre of Beauvais, was the occasional doubling of the orders in piers and archivolts. There were, however, no mouldings, and to judge from the fragments we have left, even the rude Carolingian ornament was omitted. The transepts were always provided with absidioles; excepting these absidioles and the main apse, the church was entirely roofed in wood. The main apse was probably in some cases preceded by a square choir. There is no authentic instance of a triforium gallery. In general the walls were inordinately thick, and composed of rubble, herring-bone, or very wide-jointed masonry, while the windows were often extremely small.

There is unfortunately nothing to show whether or not the groin vault was known at this early period. We have seen that at Aix-la-Chapelle this vault had been very skilfully employed in connection with transverse ribs; we have also seen that in Lombardy, a century and a half later, the combination of groin vault and transverse rib had apparently been quite forgotten and had to be evolved all over again. Now in the second half of the XI century, there appeared in Normandy

certain sculptures in the spandrels of the arches at Bayeux, is probably only a remarkable example of artistic coincidence.

[1] The remains at Vieux-Pont en-Auge and at Querqueville are negligible.

[2] The most important monument of the first half of the XI century is the nave of Bernay, much altered, but dating in its original construction probably from 1015–40. Other monuments, parts of which may be assigned with more or less (usually less) confidence to the first half of the XI century exist at Léry (?), Vaudreuil (?), Aizier, Ste.-Marie-du-Mont (?), St. Céneri, Pont-Audemer, Auguerny, Roche-Mabile, St. Wandrille (Chapelle St. Saturnin), Montagne (Chapelle St. Santin).

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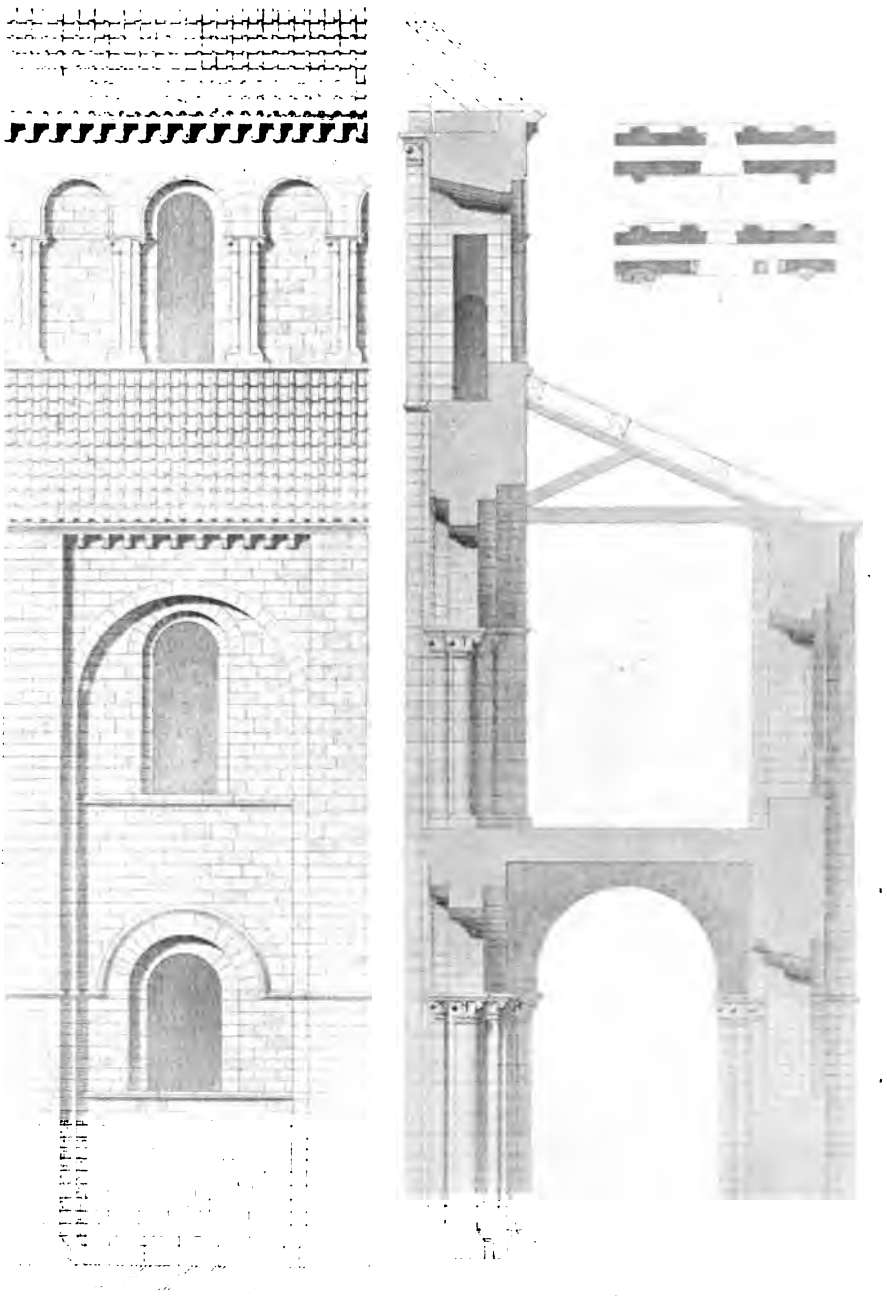

ILL. 126. — Abbaye-aux-Hommes, Caen. Exterior Elevation and Section Restored by Ruprich-Robert

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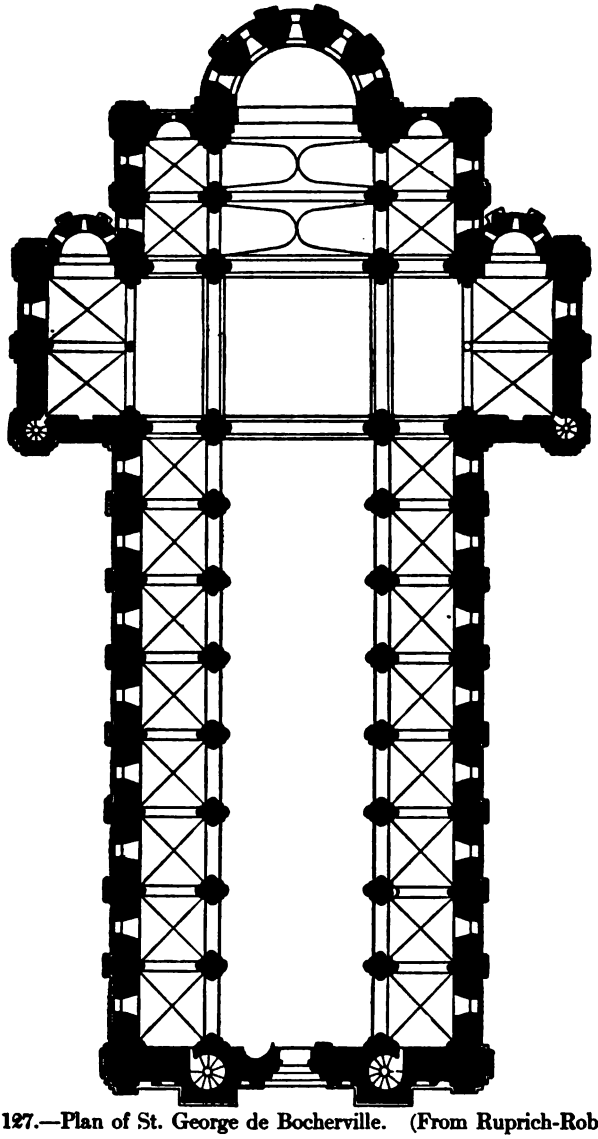
precisely this same arrangement of groin vaults with transverse ribs. It is impossible to say whether the knowledge of this construction had lingered on in the North since the days of



ILL. 127.—Plan of St. George de Bocherville. (From Ruprich-Robert)

Charlemagne, or whether it was newly imported from Italy. No groin vaults earlier than 1050 have come down to us in Normandy; but it may very possibly be that they were employed.

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Much the same uncertainty surrounds the use of the square east end. We have seen that this feature was regularly adopted in Syria as early as the VI century. It occurs occasionally throughout Europe during the Carolingian period, and was thoroughly established in Ireland, Scotland, and Saxon England. From the second half of the XI century it occurs frequently [1] in Normandy, always, however, in very small churches where it was probably employed chiefly from reasons of economy. While no instance of its use in the early XI century has come down to us, there is no reason to doubt that it was similarly employed during that period.

Towards the end of the first half of the XI century, there seem to have been introduced into the Norman style two new features. These are shown in the little church of St. Céneri (Ill. 120), although this particular edifice may possibly be later than 1050. The more important of the innovations was the central lantern. It was no new idea to erect a central tower over the crossing of the basilica,[2] but the Normans had the happy inspiration of leaving the interior of such a tower open to the inside of the church one or more stories above the roof, thus producing a new motive of the greatest architectural charm. Such lanterns became characteristic of the Norman style, and were later adopted in the Gothic architecture not only of Normandy, but of England, and even of the Ile de France.

This idea so striking and original was probably directly derived from Carolingian monuments of the type of Germigny-les-Prés (Ill. 89). As has been seen, the Lombard cloistered dome was derived from the same prototype, and placed in the same position. Although there is no evidence that the Norman lantern owed anything directly to the Lombard dome, the very fact that such a feature was used in Italy (and copied thence in Burgundy, Spain, the Rhineland, and elsewhere) was

[1] Norman churches of the last half of the XI century with square east ends are to be found at Anisy, Neuf-Marché, Huppain, St. Arnoult, and perhaps Asnières. Tamerville and Biéville date from c. 1100. In the XII century the feature is found very commonly.

[2] Central towers apparently existed from as early as the XI century at Nantes, Narbonne, Bordeaux, and Paris, thus antedating campaniles. See A. St. Paul, *Hist. Mon.*, p. 60. M. St. Paul uses the word "tours-lanternes" in describing these towers; as far as I know there is no evidence that they were lanterns or more than simple central towers.

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probably not without influence in causing the Normans to retain and develop this peculiarly happy motive.

The second innovation of the first half of the XI century will be clear upon reference to the plan of St. Céneri (Ill. 120). The westernmost supports of the central tower were placed within the nave walls, and a passageway was thus provided from the nave into the transept on the outside of these piers. This arrangement is, of course, possible only in churches of a single aisle and consequently of small dimensions. It left no lasting imprint on the general course of architectural development, though it is found in widely divergent schools. Beside St. Céneri, this peculiarity occurs in Normandy, I believe, only at Neuf-Marché; but similar plans are common in various parts of southern France, and especially in the school of Berry. These plans are so peculiar and distinctive, that it can hardly be assumed that they arose in such widely separated localities through coincidence; on the other hand, there is no other evidence of inter-influence between Normandy and Berry at this epoch. Perhaps both schools derived this feature from a common Carolingian prototype now lost.

These few conjectures are about all that it is possible to deduce, on the evidence of the fragments that have come down to us, of the course of Norman architecture during the first half of the XI century. It seems to have been an art timid, hesitating, and crude; and yet the fleeting glimpses of progress that we catch here and there bear witness to a certain amount of development, and to a gradual advance from the blind following of Carolingian tradition to the formation of a distinctly national school. This progress, however, is very slight and elusive; it is necessary rather to divine its existence than to trace its course in detail. Certainly in this early period there is nothing to pave the way for the surprising series of monuments erected during the next half century.

Of these later monuments, the first in point of time as well as of importance, was the Abbey of Jumièges, which was in construction from 1048 to 1067. The majestic ruins of this vast pile still stand on the right bank of the Seine some fifty miles below Rouen, and bear witness to the grandeur and dig-

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nity of the original design. Time has doubtless added much to the picturesque effect of this beautiful ruin: it has softened the angular outlines, clothed the bare walls with vines and grasses, and given the venerable stones that mellow color that comes only from long exposure to the weather. The destruction of the roof has opened to view the soaring height of the central tower, which forms at present so striking a feature. But Jumièges has much beside its picturesque condition of ruin to lend it artistic interest. For all its crudeness and lack of finish, this design possesses a rugged virility, an austere grandeur, that give it rank at once as one of the masterworks of architectural art (Ill. 121, 122, 123, 124).

This abbey of Jumièges is a most surprising structure. It is almost inconceivable how the Normans, the timid and hesitating builders of the first half of the XI century, learned all at once to build a monument not only incomparably superior in design to any contemporary structures in Europe, but vaster in scale than any edifice which had been erected in the West since the days of Constantine. Many features, it is true, were borrowed from Lombardy; Montier-en-Der had indistinctly foreshadowed the way which the builders of Jumièges followed, — yet, when all has been said, the originality of this design, and the daring of its execution remain indisputable. It seems as if the Norman builders had all at once become aware of their architectural genius, and had created at a breath a new and consistent style.

That inexperienced builders, undertaking a project so ambitious as the construction of a monument like Jumièges, should have sought far and wide for precedents and examples is intrinsically probable. Considering, therefore, that certain undoubtedly Lombard features are found in this design, it seems altogether probable that the edifice was more or less directly derived from Lombard sources. However, this theory of Lombard influence at Jumièges, first advanced by M. Ruprich-Robert, has been seriously disputed. M. Ruprich-Robert based his argument on the assumption that the nave of S. Ambrogio of Milan dated from the IX century. This nave is now known to be contemporary with, or even later than, Jumièges. Con-

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ILL. 128. — Abbaye-aux-Dames of Caen. Interior of Nave

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sequently if there be direct influence between the two, it is as reasonable to suppose that S. Ambrogio was derived from Jumièges, as that Jumièges was derived from S. Ambrogio. This view has been forcefully presented by no less an authority than M. Lefèvre-Pontalis, and has been followed by most of the French archæologists. M. Courajod and Mr. Moore, however, courageously continued to support the thesis of M. Ruprich-Robert. This position seems to me far stronger than that assumed by M. Lefèvre-Pontalis. S. Ambrogio is not an isolated monument, as I have tried to show in a previous chapter, and Lombard architecture consists of much more than this one example. S. Ambrogio is rather the culmination of a long series of monuments (some of which, indeed, may be lost to us), which show a perfectly logical and consecutive development. None of the scholars who have specialized in Lombard architecture — neither Cattaneo, nor Rivoira, nor Dartein, nor Venturi — has failed to recognize this salient point. Thus while M. Lefèvre-Pontalis is probably right in contending that S. Ambrogio is later than Jumièges, that by no means proves that Jumièges was not influenced by the many Lombard buildings, predecessors of S. Ambrogio; in fact, it even strengthens the case in favor of Lombard influence, since it explains why certain of the advances, like the rib vault, made at S. Ambrogio, were not imitated at Jumièges, although a little later — presumably soon after they had been discovered in Lombardy — these innovations were borrowed not only by Normandy, but by England and the Ile de France. But the strongest argument of all in favor of the Lombard influence at Jumièges is the internal evidence of the monument itself. The alternate system could hardly have been evolved by chance or borrowed elsewhere than from Lombardy. And later in the chapter we shall find other motives, both structural and ornamental, no less characteristically Lombard, to have been introduced at Jumièges and in other Norman buildings.

The alternate system is, indeed, the most striking peculiarity of the design of Jumièges (Ill. 123). In Lombardy, this system had been evolved as the logical consequence of the transverse arch thrown across the nave and side aisles. At Jumièges the

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transverse arches were omitted, but the alternately heavier and lighter supports were retained. This alternation of supports came to be used throughout Europe at about this time. It can only be explained by supposing that the Romanesque builders had not yet freed themselves from the traditional Carolingian habit of working by rote and blindly copying precedents. Therefore, although the transverse arches of the Lombards were rejected, the alternate system which has logic and meaning only in connection with those arches, was retained. Later, it seems to have been found that the alternate system gave a sort of rhythm to the composition, and it was hence often employed for purely esthetic reasons.

Even more distinctly Lombard than the alternate system, are the engaged shafts introduced at Jumièges. As may be seen in the (restored) internal elevation (Ill. 123), every other pier is compound and supplied with a shaft. This shaft rises from the ground and reaches uninterruptedly to the roof. There it simply terminates, without capital, without having revealed for itself any *raison d'être*. This feature, so peculiar, so inexplicable, was repeated after Jumièges by the Normans in building after building, and became one of the leading characteristics of the style. It occurs, not only in Normandy, but throughout Western Europe, from Spain to the Ile de France and Flanders. I believe, however, that Jumièges is the earliest example of the use of these engaged shafts, and, considering the international fame and importance of the abbey, I do not hesitate to regard all other examples as thence derived. The extraordinary popularity of so fortuitous and illogical an idea is most astonishing, and of all the forms produced by medieval architecture, there is none which has more puzzled the archæologists. The most plausible explanation yet advanced sees in these shafts merely a decorative feature. Their use increased the effect of rhythm given by the alternate piers; they served to mark the bays internally, and to accentuate the vertical lines, thus giving scale in height and length to the building; they appeared to offer support for the tie-beams of an open timber roof; and finally they bound together the three stories of arcade, triforium, and clearstory, otherwise little related in composition. This theory, if

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ILL. 129. — Abbaye-aux-Hommes of Caen. Interior of Nave

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there is little positive evidence to support it, is, on the other hand, entirely possible. The engaged shaft certainly did answer the purposes claimed for it. Yet, in medieval art, entirely new features were never evolved in this way, purely for decorative effect. Such an invention out of whole cloth would be contrary to all the tendencies of the time and an event absolutely without parallel. It seems far more probable that these advantages should have caused the engaged shafts to be retained after they had originated in some other way, than that they should have suggested their invention.

The alternative explanation, although it has gained wide acceptance, and has been advocated by Mr. Moore, seems to me to be on its face improbable, and is supported by no serious evidence. This theory considers the engaged shafts as showing a vague, undefined intention on the part of the builders who commenced the construction to vault the edifice — an intention which those who built the clearstory did not have the skill or courage to carry out. All this is assuming knowledge on the part of the Romanesque builders that we have every reason to suppose they did not possess. An archæologist of the XX century knows that these engaged shafts of the Normans bear a striking analogy to the vaulting shaft later employed to support Gothic rib vaulting. But in 1048 there is every probability that it had never occurred to the master builders to vault a vast nave like Jumièges; and even had they set out to erect such a vault, it is altogether likely that they would have used a groin vault without tranverse ribs, so that there would have been no use for an engaged shaft. Furthermore, I strongly suspect that the builders of Jumièges were quite men enough not only to know their own intentions, but to carry them out. In this design there is nothing fortuitous or unforeseen. Architecture was treading a new way, yet as far as she went she planted her foot firmly.

What seems to me the true explanation of the Norman engaged shaft is so obvious that I wonder that (at least as far as I know) it has never been advanced before. If it be once granted that the builders of Jumièges were acquainted with those Lombard basilicas that were furnished with transverse

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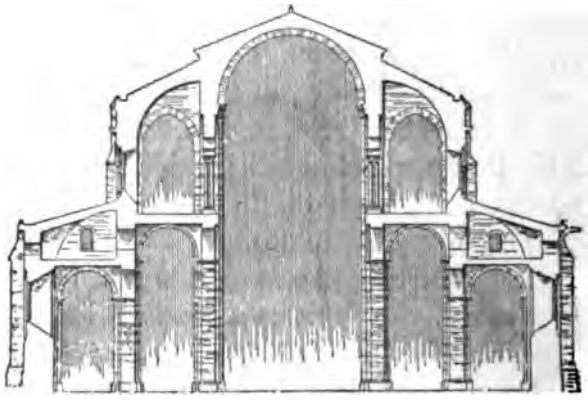
arches, the whole matter becomes clear. At the time that Jumièges was commenced (1048), vaulted naves were unknown even in Lombardy, but transverse arches had been thrown across the nave for upwards of half a century.[1] In seeking models for their design, the builders of Jumièges may well have studied these Lombard churches — considering the constant intercommunication between Italy and Lombardy at this period, it is almost inevitable that they should have been acquainted



ILL. 130. — Section of St. Sernin of Toulouse. (From Dehio)

with them. Now the system of transverse arches possessed great advantages in unifying and relieving the design; it offered, however, two great drawbacks to the northern builders: in the first place, it destroyed the effect of the lofty clearstory, thus dwarfing the height of the nave; secondly, it exerted upon the clearstory walls a powerful thrust, which the inexperienced builders of the North were probably unable to meet. At Jumièges these difficulties were avoided by omitting the transverse arch, while the advantages of the Lombard system were retained by preserving the shaft which had supported it. Surely this was neither an illogical nor an incomprehensible proceeding, and the precedent for the engaged shaft is thus found near at hand. How entirely successful this expedient was judged to be at the time, is proved by the fact that engaged shafts became

[1] At S. Zeno of Verona, a church of the XII century, there are to be found transverse arches and also certain shafts evidently intended to support arches which were never constructed. These shafts are entirely analogous to those of Jumièges. (Ill. 111.)

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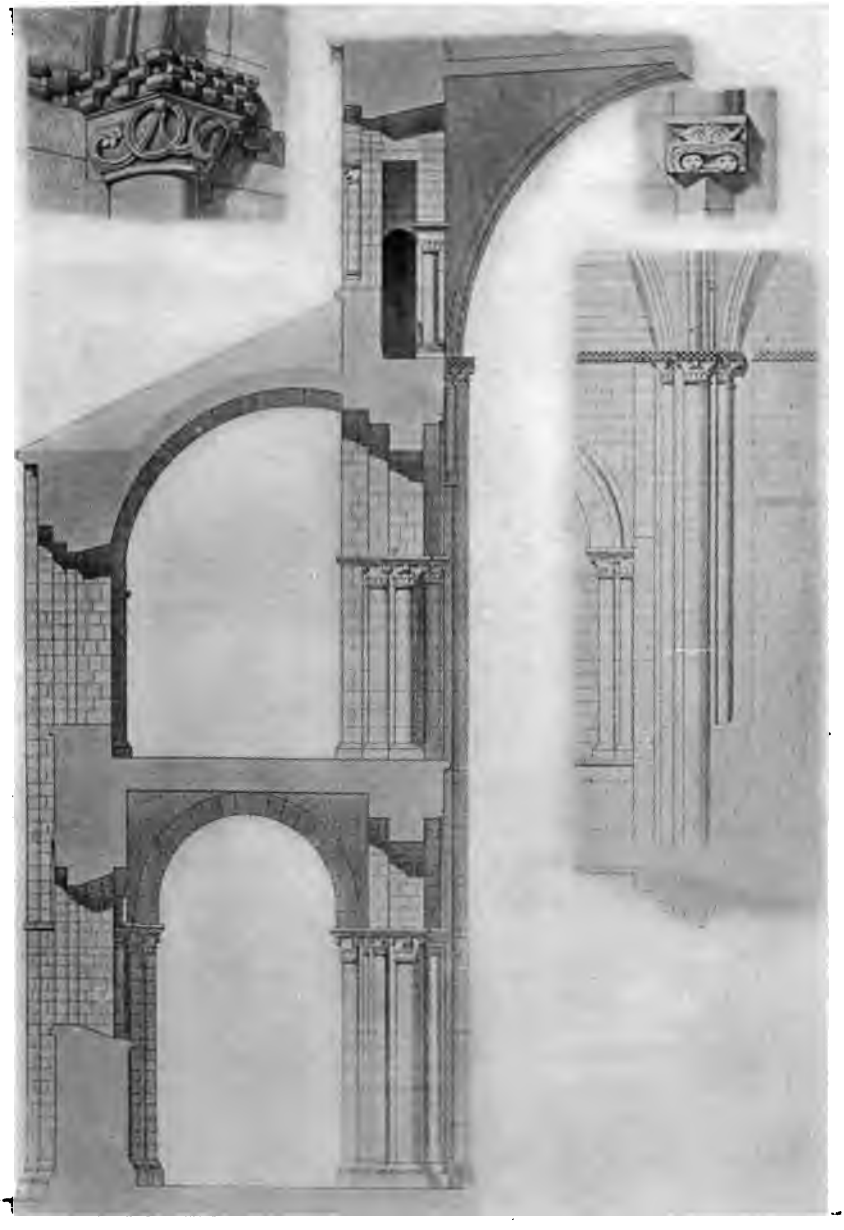

Ill. 131. — Section of Abbaye-aux-Hommes of Caen. (From Ruprich-Robert)

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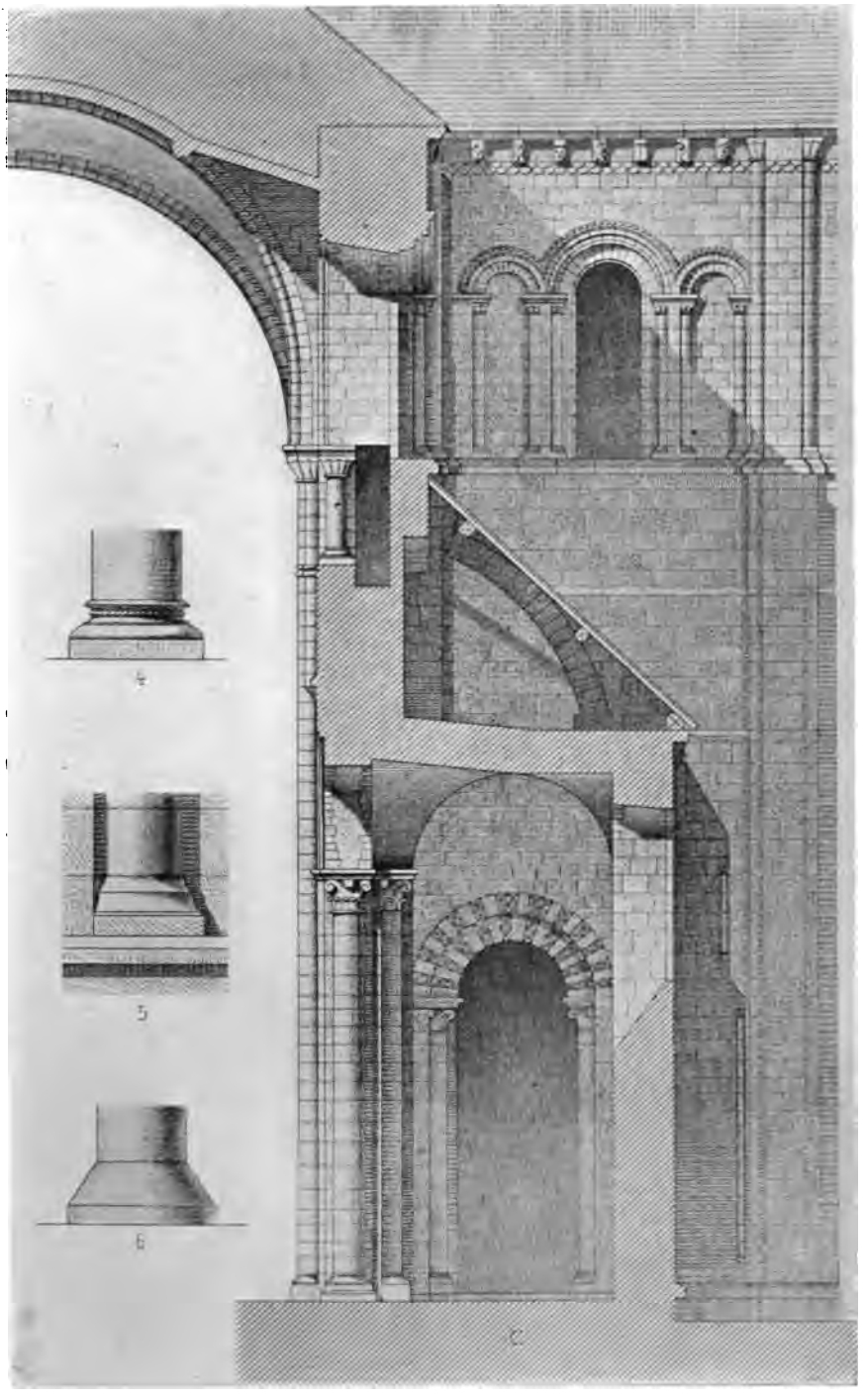

ILL. 132. — Transverse Section, Abbaye-aux-Dames of Caen. (From Ruprich-Robert)

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one of the established characteristics of the Norman style, and that their use rapidly spread over all Europe.

A confirmation of this derivation of the engaged shaft, and a direct proof of Lombard influence in Normandy, is to be found in the transverse arches which were later built at Cerisy-la-Forêt, Esquay, and just across the Norman border at the church of Notre-Dame-du-Pré of Le Mans. No one doubts that transverse arches are thoroughly and characteristically an Italian feature. Therefore it is certain that the Normans were acquainted with this peculiarity of Lombard design and did not hesitate to imitate it.

Outside of the engaged shafts and the alternate system, the design of Jumièges is easily comprehensible. The high triforium galleries may have been derived either from Carolingian tradition, or from Lombardy, since they are common to both. The same may be said of the groin vaults with transverse ribs that covered the aisles and galleries, although it is remarkable that the Lombard edifices with transverse arches across the nave usually had just such groin-vaulted aisles and galleries. The design of the triforium openings is strongly reminiscent of Montier-en-Der; on the other hand, the pilaster strips — they can hardly be called buttresses — that originally marked the bays externally, are thoroughly Italian. Indeed, buttresses were always treated by the Normans in the Italian manner — *i.e.*, as ornamental rather than as structural features.

At Jumièges the Norman style may be considered as formed. Hereafter it simply developed logically the ideas which the builders of Jumièges had originated. Advance proceeded along perfectly rational lines, by short and easy, but none the less sure, steps. On the structural side nothing further was borrowed from Italy — for the time being — but the ornament, as will be shown later in the chapter, proves that Lombardy continued to exert a powerful influence upon Norman art. It is easy to follow the history of Norman architecture during the last half of the XI century. Before Jumièges had been completed, the two great royal abbeys at Caen had been begun; and before the century was out the church of St. Nicolas at Caen, and the abbey of St. Georges de Bocherville near Rouen had been completed.

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Simultaneously with these great monuments there sprang up all over Normandy a host of lesser churches, many of which, in part at least, have come down to us. There is, accordingly, no lack of data for tracing the progress of the style.

As has been said, the idea of shafts engaged on the faces of the piers was received with enthusiasm throughout Normandy, though a few churches, generally of small dimensions, continued up to the close of the Norman period to be built without this feature. The motive was in certain churches[1] used with an alternate system, precisely as at Jumièges. At the Abbaye-aux-Hommes of Caen, however, an innovation was tried. (Ill 125. The right hand bay shows the original design.) The engaged shafts seem to have been found so effective from a decorative standpoint, that it was concluded to engage a shaft on every pier, instead of on every other pier. But the idea of the propriety of an alternate system had become so firmly embedded in the Norman mind that the builder of the Abbaye-aux-Hommes seemingly did not dare take such a radical step as to make every pier alike. Accordingly the piers were made of the same profile, but the intermediate piers and their shafts were made slightly smaller. But in the almost contemporary Abbaye-aux-Dames (Ill. 128), the logical step of making all the piers equal, and thus changing the system from alternate to uniform, was actually taken. This uniform system with engaged shaft was repeated at St. Nicolas of Caen and at St. Georges de Bocherville (Ill. 127), and thereafter became the typical Norman design, although the alternate system occasionally persisted alongside of it.

A curious variation of the motive of the engaged shaft occurs at Notre-Dame-sur-l'Eau of Domfront,[2] where a shaft, engaged on the aisle side of the main piers, is carried up along the outside of the clearstory wall to form a buttress. Such a construction seems to prove that the Norman builders, at least in the second half of the XI century, far from considering the engaged shaft as a structural feature to be used in connection with the vault, rather regarded it as a purely decorative element to be

[1] *e. g.*, Graville-Ste.-Honorine (c. 1100.)

[2] Probably also in the XII century church of Than. It is possible, however, that here the aisles (which are destroyed) may have had transverse arches.

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ILL. 133. — Abbaye-aux-Hommes of Caen. Façade

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used as fancy suggested; — quite in the spirit that the same feature is used on the façade of S. Michele of Pavia.

Groin vaults were employed in the aisles and triforium of Jumièges (Ill. 124), in the aisles of the Abbaye-aux-Hommes (Ill. 126), and in fact quite regularly in the aisles of all the larger Norman churches. However, a few monuments — notably the Abbaye-aux-Dames at Caen, in its original condition — were still erected with wooden roofs throughout. The groin vaults were always on a nearly square plan. Before the end of the XI century, however, the Normans had learned not only to construct groin vaults on an oblong plan, but even to erect them over the great choir (Ill. 127).[1] This was a remarkable advance. It was perhaps easier to throw a vault over a choir, short and well abutted by the heavy piers of the crossing and the half-dome of the apse, than to groin-vault an entire nave. And yet the step from the one to the other is so obvious and easy, it is difficult to understand why the Normans never attempted it. It is probable that the unsettled conditions of the XII century checked for a time all architectural advance; and, when building activity was resumed, there were at hand new solutions of the vault problem that made the groin vault unnecessary. But, although these groin-vaulted choirs were thus destined to lead to no abiding result, the Normans, in erecting in the XI century such large vaults, accomplished a feat unrivaled by any other nation of Europe, save only Lombardy.

In the XI century the Normans do not seem to have adopted the Lombard rib vault. In the following century they did so; and even in the XI century they seem to have been conscious more or less of Lombard constructive methods, for certain of their groin vaults, instead of having level crowns following the old Roman and Carolingian tradition, are distinctly domed in the Lombard manner.[2] Probably the Norman builders only partially understood the advantages of the Lombard construction and preferred to work out their own solution of the vault problem without the use of ribs.

[1] Groin-vaulted choirs occur at the Abbaye-aux-Dames and St. Nicolas of Caen; at St. Georges de Bocherville, Notre-Dame-sur-l'Eau of Domfront and in the churches of Secqueville-en-Bessin, Autheuil, Pont-Audemer and Savigny.

[2] A notable example are the choir vaults of St. Georges de Bocherville.

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One of the most characteristic peculiarities of Norman architecture is the disposition of the east end. The ambulatory was in use by the end of the X century as close to the Norman border as Le Mans; it was not unusual in the Norman monuments of England; but it never occurs in Normandy, except rarely in the late XII century and then under the direct inspiration of the school of the Ile de France. The typical Norman choir (Ill. 127) ends in a semicircular apse. The choir itself is regularly two bays long, and is flanked by two aisles, also terminating in apses or niches. From the transept generally open two more absidioles [1] — remnants of the strangely persistent Carolingian tradition — making five apses in all.

Another marked peculiarity of Norman churches, and, I believe, a feature without analogy elsewhere, is the tribune often placed in the transept end. This is also illustrated in the plan of St. Georges de Bocherville (Ill. 127).[2] It is as if an aisle had been built at the end of the transept, but placed inside, instead of outside, the clearstory wall. Thus is formed a sort of pavilion in two stories. The tribune is regularly two bays long, and its intermediate pier often has an engaged shaft which terminates in the air in a most inconsequential fashion. Perhaps because of this tradition of tribunes, there is a tendency to shut off the transepts as chapels. At St. Céneri, the roof of the transepts is lower than that of the nave.

The final innovation introduced in the XI century, and a highly important one, was the system of interior passageways in the walls. This was distinctly a Norman invention and was probably first tried in the Abbaye-aux-Hommes of Caen. In an edifice of large dimensions it becomes of importance to provide access to all parts of the building, that necessary repairs may be executed without the necessity of erecting expensive scaffolding, and that constant watch may be kept on the conservation of the building. Hence stairways were managed in the thickness of the wall, and a passageway, also in the thickness of the wall,

[1] Examples of transeptal absidioles occur at Ste. Trinité, St. Étienne, and St. Nicolas of Caen; at Mt. St. Michel, St. George de Bocherville, Cerisy-la-Forêt, Notre-Dame-sur-l'Eau of Domfront, Audrien, Autheuil, St. Céneri, Pont-Audemer, Montebourg, Verson, etc.

[2] Tribunes occur also at St. Étienne and St. Nicolas of Caen, St.-Denis-sur-Sarthon and at Cerisy-la-Forêt.

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ILL. 134. — Abbaye-aux-Dames of Caen. Exterior

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was built along the clearstory level. In churches where there was no triforium gallery a similar passageway was constructed at the triforium level. The character of such passageways may be seen in the section of the Abbaye-aux-Hommes (Ill. 126).

These passageways influenced greatly the development of Norman art. Being placed in the middle of a thick wall they tended to divide it into two parts and thus form a double wall. Now, when a window or an arcade was opened in such a double wall, the builders soon discovered that an entrancing effect could be produced by giving one design to the opening in the inner wall, and another design to the opening in the outer wall — thus letting the eye look through one design at the other. An early example of this motive is the clearstory of the Abbaye-aux-Hommes as altered towards the close of the XI century (Ill. 125, the left-hand bay). The idea became one of the peculiar characteristics of the Norman school; transmitted to the Norman Gothic it gave rise to those peculiar effects of double tracery that lend so much charm to the XIII century cathedrals of Normandy.

In addition to such notable structural advances, Norman architecture showed a great improvement in technique. Small and herring-bone masonry persisted occasionally up to the end of the XI century, and even later; but dressed blocks were more and more used. These blocks gradually came to be more skilfully cut and fitted together with finer joints, until in the XII century Normandy rivaled even the Ile de France in the perfection of its stone-cutting. In this dressed masonry the horizontal joints, though not equally spaced, are always continuous and run for the entire length of a wall, or the entire diameter of a pier. The use of red mortar was frequent.

In the XII century, the course of Norman architecture took a most peculiar and unexpected turn. It has been seen that after the year 1100 building activity declined. No structural advance seems to have been made for some time after this date; the groin-vaulting of the nave that seemed so near at hand was never reached. Then suddenly, without warning or preparation, we find a series of churches vaulted with the sexpartite rib vault.

Not one of these monuments is clearly dated; archæologists

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have assigned them to anywhere from the first quarter[1] to the middle of the XII century.[2] There are in all seven rib-vaulted monuments that have come down to us, all except one (which is the latest of all), in the département of Calvados, and in, or not far from, the city of Caen.[3] By a comparison of the technique and details of these various vaults it seems evident that the vault of the Abbaye-aux-Hommes is the oldest; that the Abbaye-aux-Dames is somewhat later; and that the others (all about contemporary with each other) are later still.

The date of these churches becomes of immense importance, for, about the same time, the sexpartite vault appears in the Ile de France, at St. Denis (1140–44). The question consequently arises, whether Normandy borrowed from France, or France from Normandy. The strong trend of modern opinion, under the capable leadership of M. Lefèvre-Pontalis, inclines to the former alternative; but no less weighty voices than those of Mr. Moore, of M. Louis Régnier, and of M. Enlart are raised on the other side, while M. Anthyme St. Paul is frankly undecided.

Before discussing the question of its origin, it is necessary to study the character of the sexpartite vault. The Norman examples may be divided into two distinct types. The simpler of these is illustrated in the vaults of the Abbaye-aux-Dames (Ill. 128), and is the type followed at Bernières-sur-Mer, at Ouistreham, and at St. Gabriel; — that is, in four out of the seven examples of sexpartite Norman vaults that have come down to us. These vaults are in their essence but a simple quadripartite Lombard rib vault. But an extra transverse arch has been constructed through the intersection of the diagonals, and this transverse arch has been loaded with a perpendicular wall of masonry reaching up to the surface of the vault.

The second type of sexpartite vault, which was used in the Abbaye-aux-Hommes (Ill. 129), and which is also found at Creully and Petit-Quevilly, employs precisely the same structure of ribs. But the vault surface is warped to the intermediate

[1] Mr. Moore. [2] M. Lefèvre-Pontalis.

[3] The list is as follows: St. Étienne and Ste. Trinité of Caen; Ouistreham, Creully, St. Gabriel, Bernières-sur-Mer, and Petit-Quevilly (Seine-Inférieure).

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Ill. 135. — St. Georges de Bocherville. Façade

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transverse rib, which thereby acquires a structural function, and instead of supporting merely a loaded vertical wall, supports its portion of the vault. As a result, the vault surfaces become much more twisted and complex; the ridges of the lateral cells diverge from the central keystone at an irregular angle; and the vault surface intersects the wall, not in a quarter of a semicircle for each half bay, but in half an ellipsoid, more or less irregular in trace, according to the skill of the builders.

Of these two types, that of the Abbaye-aux-Dames would seem to be the more primitive, both because it is much more simple to construct, and because it is one step less removed from the already known Lombard rib vault on a square plan. However, the existing vaults of the Abbaye-aux-Hommes are unquestionably the earliest sexpartite vaults extant in Normandy; of this the internal evidence of the monument itself leaves no doubt. Nevertheless, it is always possible, and I believe probable, that the type of the Abbaye-aux-Dames is the more primitive form of the two, since it might easily happen that all the early examples of the type should have been destroyed.

Now if this possibility be once granted, the Norman sexpartite vaults become at once more comprehensible. Vaults of the type of the Abbaye-aux-Dames might easily have been evolved from the Lombard quadripartite rib vault. These Lombard vaults had by this time reached their full development in Milan and Pavia; they had also made their way into the Ile de France. From either of these sources they could easily enter Normandy. But very shortly after this time, just across the Norman border, at Le Mans, the nave of the cathedral was covered with quadripartite rib vaults on an alternate system, in quite the Lombard manner; and late in the XII century in Normandy itself, the church of La Madeleine at Verneuil is supplied with vaults of the same character. It would therefore not be surprising to find the Lombard quadripartite rib vault introduced into Normandy about this period. If a vault of this character should be erected over a nave like that of the Abbaye-aux-Dames, where every support was supplied with an engaged shaft, it is obvious that certain difficulties of adjustment would result. The alternate shafts would support the

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ribs of the vault very conveniently; but the intermediate shafts would intersect the ridge of the vault in a most unpleasant fashion. In Lombardy (Ill. 92, 104, 119) such intermediate shafts had been awkwardly managed, having been made to carry the corbel-tabel of the triforium string. This arrangement, however, was only a makeshift, and possessed several disadvantages: it dragged into the interior an ornament essentially external in character; and it furthermore made it necessary to stop the shaft too low to obtain the desired effect of vertical line. The Normans, confronted with this problem, might very well have hit upon the idea of continuing the intermediate shaft to support a transverse arch. This arch would have been connected with the vault by a wall of masonry, and sexpartite vaults, precisely similar to those of the Abbaye-aux-Dames would have resulted.

This form once obtained, the supplementary transverse arch might easily have been made a true rib by warping the vault surface to it, instead of making it support a curtain wall. Such a form, however, would be more complicated to construct, and the old type might well have continued to live on, side by side with the new. This hypothesis would explain the origin of the sexpartite rib vault in Normandy.

On the other hand, it is impossible to account for the origin of the sexpartite vault in the school of the Ile de France. There the quadripartite rib vault had been long and systematically developed. It was progressing along perfectly definite and logical lines, when, without warning, the sexpartite vault appears at St. Denis and is copied in a certain number of other monuments without ever entirely supplanting the older form. Furthermore, the sexpartite vaults of the Ile de France are always of the type of the Abbaye-aux-Hommes; vaults of the type of the Abbaye-aux-Dames, which seem to preserve a more primitive form, and an intermediate stage of the evolution, are never found outside of Normandy. This fact argues strongly that the sexpartite vault must have originated in Normandy rather than in the Ile de France.[1]

[1] On the theory that the sexpartite vault arose in the Ile de France, I do not see how the curious form of the vaults of the Abbaye-aux-Dames could possibly be explained.

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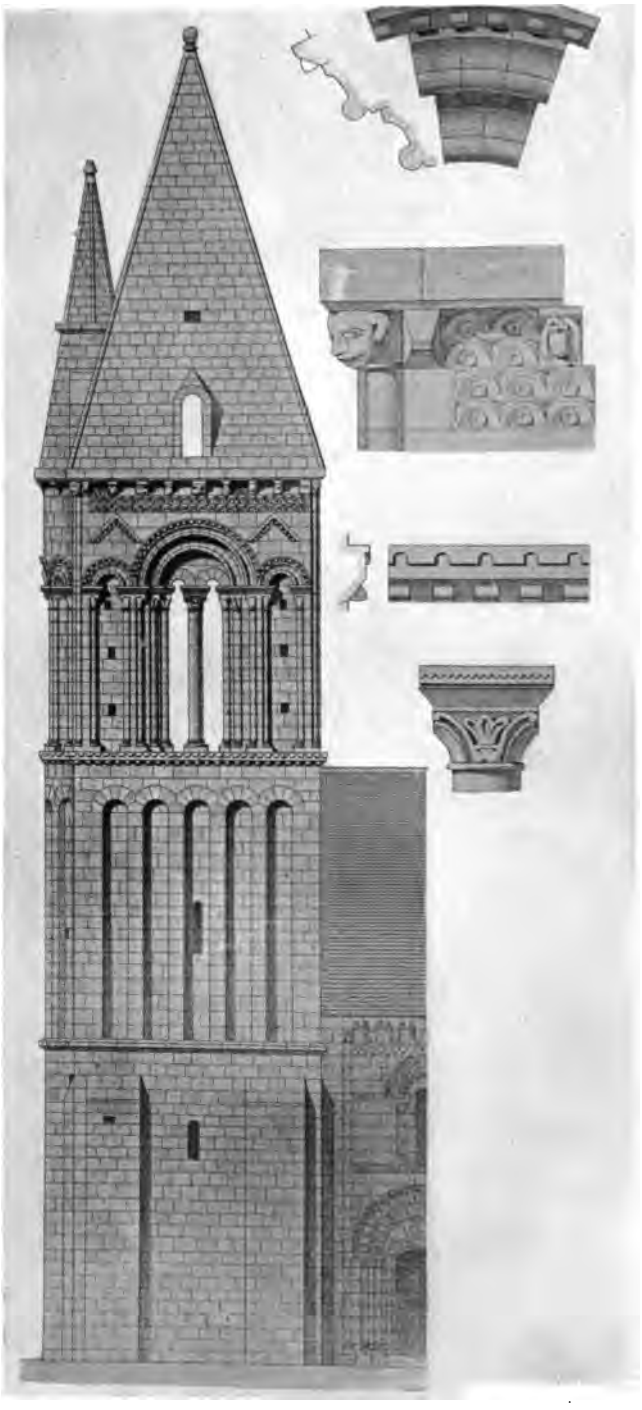

Ill. 136. — Tower of St. Contest. (From Ruprich-Robert)

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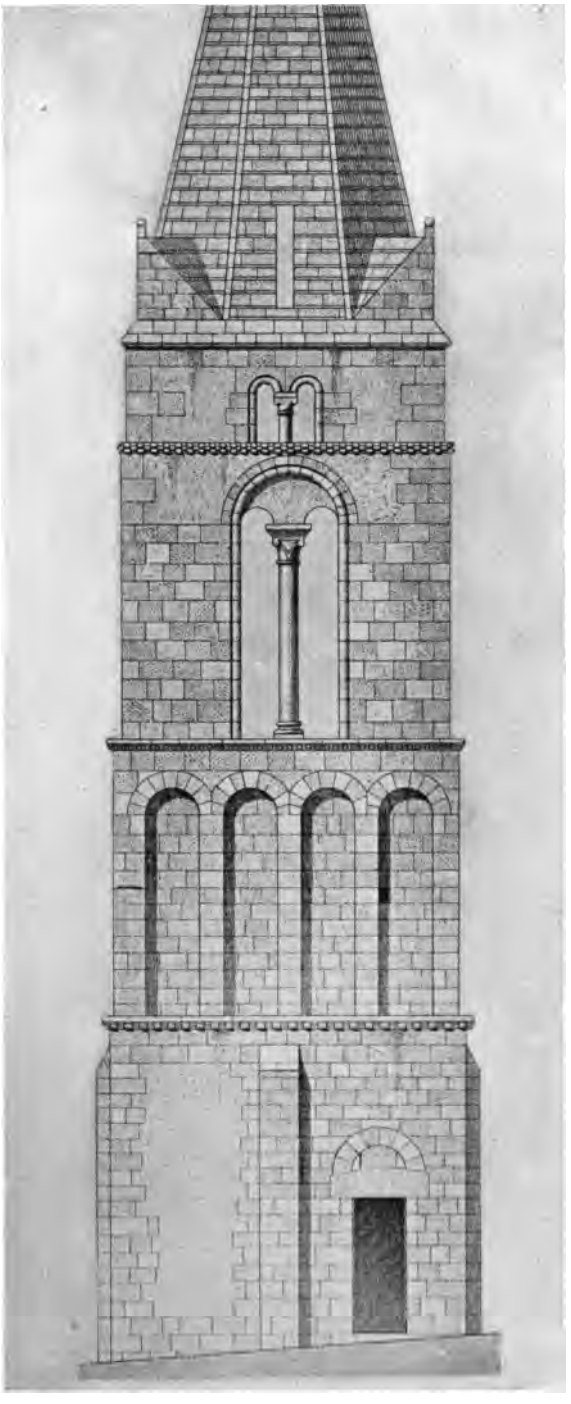

Ill. 137. — Tower of Champigny. (From Ruprich-Robert)

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Again, it is clear that Norman architecture needed the rib vault only to roof the naves. The aisles and choir had long been covered with groin vaults with perfect success, and it was natural that this tradition should continue. Now it is perfectly obvious that the sexpartite vault could originate only in the nave, as in the aisles it could not possibly be applied. So it is not so surprising that the Normans should have devised this new form to meet new requirements. In the Ile de France, on the other hand, a form of vault perfectly applicable to naves had long been understood, and at least several naves had already been successfully vaulted[1] on the quadripartite system. Under these circumstances it is much easier to understand the origin of the sexpartite system in Normandy than in the Ile de France.

The very character of the two schools is an argument in the same direction. In the Ile de France there is steady undeviating progress towards a definite goal. Steps are taken cautiously, with hesitation; but progress once made is never forgotten, and a principle once evolved is carried inevitably to its logical conclusion. Chance plays but little part in the inexorable logic of the naissant Gothic; there is never any striking innovation; perfection is reached by carrying further constructions long partly understood. The appearance of the sexpartite vault in this school, suddenly, without previous examples, is an anomaly; it can be credibly explained only on the assumption that it was imported from without.

In Normandy, on the other hand, architectural progress is far from being as measured as in the Ile de France. We have seen it halt at the beginning of the XII century. When it came to resume its way it is not unnatural that it should seek new paths by which to keep abreast of the progress of its neighbors. In fact, we know that the old line of advance of the XI century had been definitely laid aside; it consequently is not altogether unexpected to find this virile school striking out in entirely new, and somewhat erratic, directions.

It is inconceivable, to my mind, that the sexpartite vault could grow up apart from the alternate system. This is the

[1] See Vol. II, p. 76.

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very basis and fundamental element of its existence; without this it could not have come into being. This fact seems decisive, for in the Ile de France, the system, prior to the introduction of the sexpartite vault, was consistently uniform; while in Normandy, as we have seen, it was frequently alternate.

In view of these considerations I do not hesitate to assign the vaults of the Abbaye-aux-Hommes to a date earlier than St. Denis, or to c. 1135. The Abbaye-aux-Dames, somewhat later, may be placed c. 1140; and the other examples of the Norman sexpartite vault seem to belong to about the middle of the XII century. Comparison of the details of these monuments with other Norman remains, I believe, will reveal nothing inconsistent with this chronology.

The extraordinary popularity which the sexpartite vault attained, is one of the strangest facts in medieval architectural history. If the sexpartite form originated before the rib vault on an oblong plan was understood, it survived long after; and time and again — for example at the Abbaye-aux-Dames, — the two constructions appear side by side in contemporary work. Over the old Lombard vault, the sexpartite form possessed the advantage of somewhat relieving the thrusts on the alternate piers, since some strain was brought upon the intermediate pier by the extra transverse rib. But as compared with the quadripartite vault on an oblong plan, the sexpartite vault with its distorted surfaces and its strangely twisted lines, was both more difficult to construct and less beautiful. In Normandy, the land of its birth, its survival for a time against imported forms can be understood; and in fact it yielded before so very long to the improved methods brought from France. But in France itself, why was it ever imported, and once imported, what was the secret of its amazing popularity? — But that is a question for another chapter.

The vaulted nave brought in its train the serious question of how to provide proper abutment for the vaults. The Lombards had obtained an imperfect system of buttressing at the sacrifice of the clearstory, by making the vaults of the triforium gallery abut those of the nave. The Norman builders, however,

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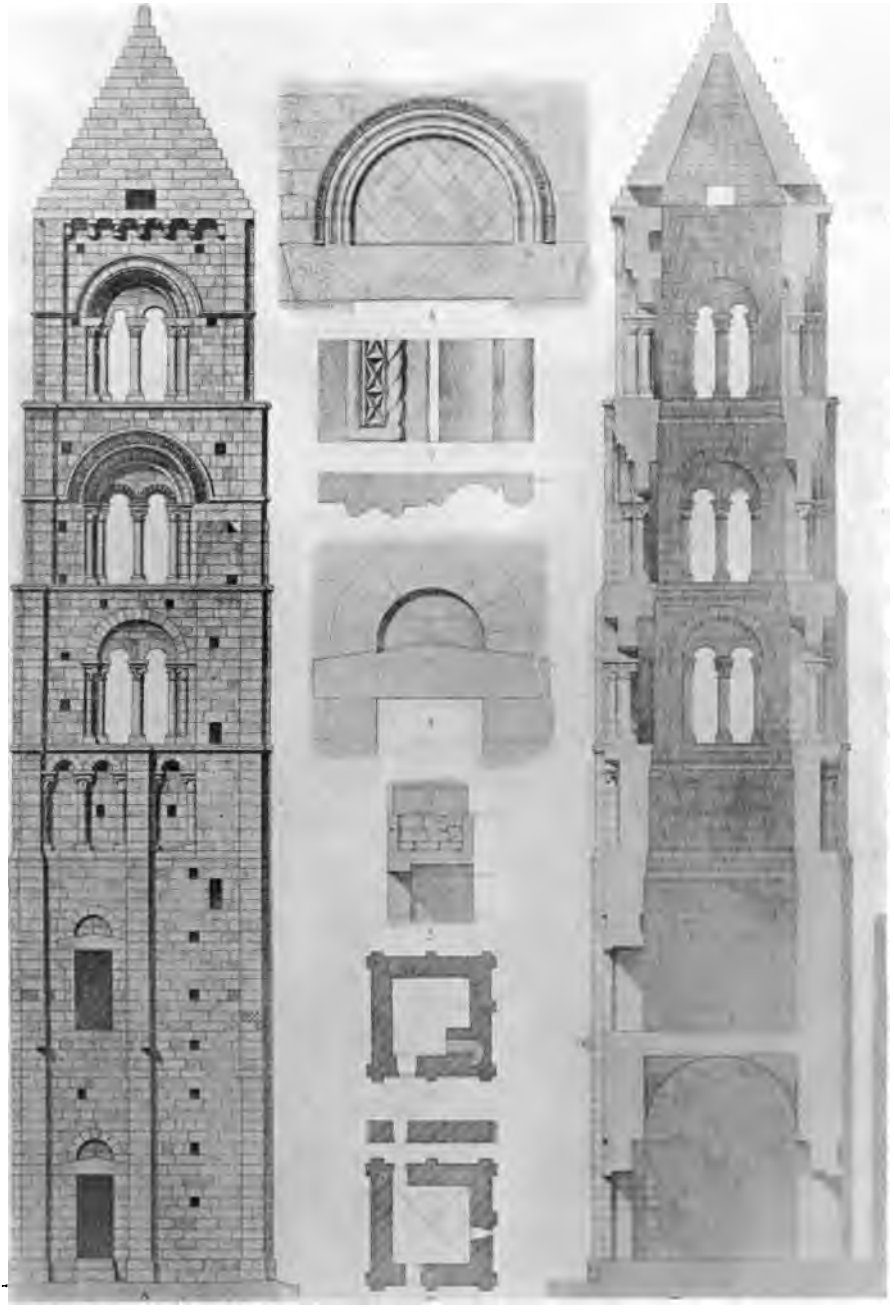

Ill. 138. — Tower of Ver. (From Ruprich-Robert)

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looked for suggestion to the south of France. In monuments of the type of St. Sernin of Toulouse [1] (Ill. 130), a barrel-vaulted nave had been buttressed by two half barrel vaults thrown across the aisles. To make these buttresses effective, the aisles had to be made nearly as high as the nave, and the clearstory consequently sacrificed.

This idea was borrowed by the builders of the vaults of the Abbaye-aux-Hommes (Ill. 131). Half barrel vaults were thrown across the triforium gallery under the roof. But the Normans had failed to understand the logic of the Southern construction. The clearstory of the Abbaye-aux-Hommes brought the buttresses much too low; and a half barrel vault, while a logical and effective buttress for another barrel vault, is an illogical and ineffective abutment for a groin or rib vault. For the thrust of the buttressing vault is brought into opposition with the thrust of the sexpartite rib vaults only at isolated points, *i.e.*, where it abuts the ribs; and, since the thrust of the buttressing vault is continuous, and exerted all along the clearstory wall, where there is no thrust of the great vault to oppose, this buttressing vault might easily have been dangerous to the stability of the walls. However, the stout masonry of William the Conqueror was fortunately strong enough to support by its sheer inertia, both the strains of the vault, and those of its ill-devised buttresses in addition.

The Norman builders were quick to realize the mistakes made in the buttresses at the Abbaye-aux-Hommes, and in the vaults of the Abbaye-aux-Dames, built perhaps some five years later, improvements were made. These improvements consisted in simply cutting out those portions of the half barrel vault which were not necessary. The result was a series of half arches thrown across under the triforium roof and abutting the vaulting shafts. In fact, the flying buttress had been discovered — the flying buttress, concealed beneath the triforium roof, it is true, and ill adjusted and blundering, being placed too low to effectively oppose the thrust of the vault, but still the flying buttress. The principle had been invented. From this

[1] The date of this monument is not under question here. It is a convenient illustration of a type of vault evolved in the South certainly before 1135.

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moment it was only a question of perfecting the new construction (Ill. 132).

The Normans, however, were not destined to carry out these final steps. Like the Lombards, they let the problem fall at the moment of success, and it was reserved for the builders of the Ile de France to develop to its logical conclusion this pregnant invention. In Normandy, the concealed flying buttress was employed in essentially the same form until about the middle of the XII century,[1] when it gave place to the architectural forms imported from the Ile de France. At last the fully developed flying buttress was borrowed back again about the beginning of the XIII century.

While Norman architecture was thus only partially successful in dealing with the problem of the vault and buttress, it made great strides in the design of the more purely ornamental features of construction. Especially did the Normans excel in the treatment of bell towers, which under their hands became frequently the most effective part of the exterior design. The central tower, usually with an interior lantern, was a favorite feature. When small churches had only one tower, it was most frequently placed over the crossing; and when several towers were affixed to the same church, one was almost sure to be central. The Normans also adopted the Carolingian idea of flanking the façade by twin towers; — Jumièges (Ill. 121), the Abbaye-aux-Hommes (Ill. 133), and the Abbaye-aux-Dames (Ill. 134), offer a series of fine examples of this disposition.

The Normans, however, carried still further the principle of multiplying and disposing the towers with a view to the exterior effect. At the primitive cathedral of Coutances (1030–56), there were no less than five towers — one central, two western, and two flanking the apse. Central western towers, placed at the end of the nave and forming a sort of narthex porch, came into use at least as early as the XII century,[2] and have ever since remained a favorite disposition for small churches. At other times the tower was merely built to flank the church, either on the north or south side; when so disposed, it was usually placed between the choir and nave, its lower story often serving as a

[1] *e. g.*, at St. Gabriel and Cerisy-la-Forêt. [2] *e. g.*, Ste. Céronne.

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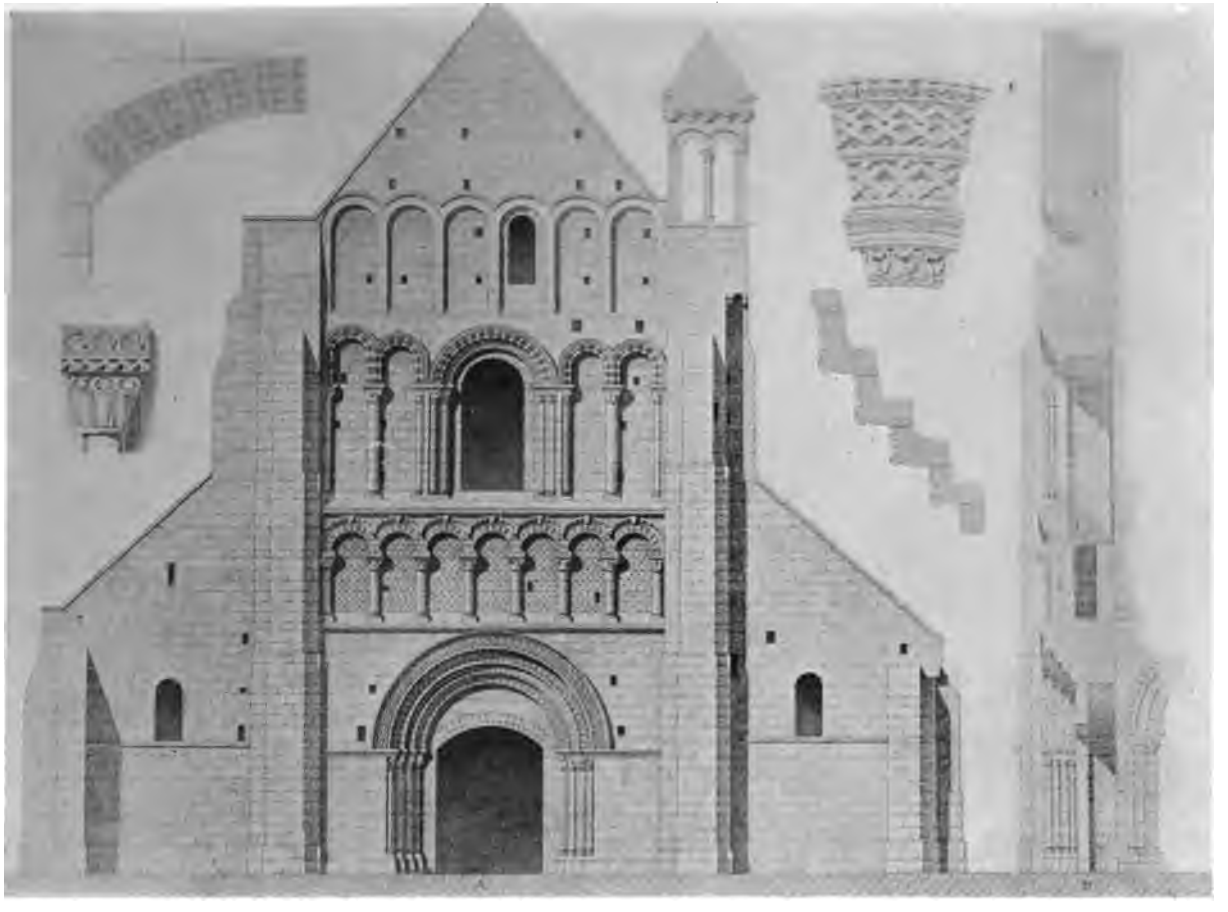

Ill. 139. — Façade of Ouistreham. (From Ruprich-Robert)

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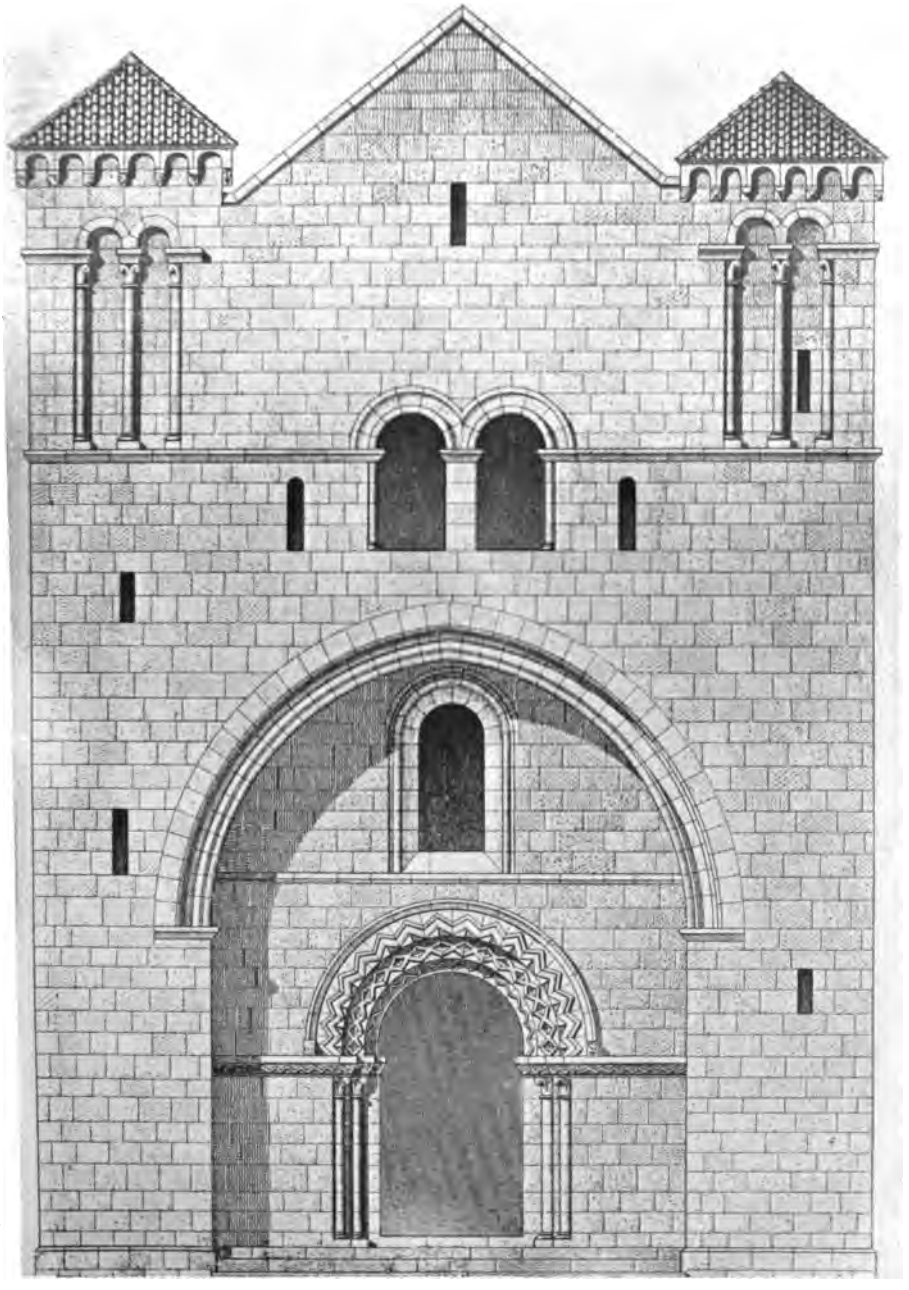

Ill. 140. — Façade of Pontorson. (From Ruprich-Robert)

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sort of transeptal chapel. Thus the Normans varied the position of the bell towers with great freedom, in order to obtain a picturesque exterior design.

As for the towers themselves, their development was governed by esthetic, rather than by structural considerations. Norman towers may be divided into two broad categories: the one consisting of those of many stories, and the other of those of only three. M. Ruprich-Robert [1] considers that all the many storied towers are of early date, and that all the three-storied towers are late. This is certainly a mistake, as is shown by the details of ornament, and the theory has led the learned archæologist into several serious errors. But although some three-storied towers are clearly early, M. Ruprich-Robert's thesis generally holds. That is, the general progress is towards simplicity and restraint in design. In this the Norman school showed marked superiority over its Anglo-Norman cousin. Nothing more simple, more dignified, more logical than the XII century tower — an upper story with open windows for the belfry, a square substructure, and, between the two, to manage the transition, a story of blind arches (Ill. 136, 137).

The general form of Norman towers is square, though examples of octagonal towers are not wanting.[2] These usually rise from a square substruction. At Jumièges (Ill. 121, 122), or in the old cathedral of Coutances, the octagonal part formed only a sort of termination to a square tower. Towers of this type became one of the distinctive features of the local Gothic school in the XIII century.

It continued to be customary throughout the Norman period to terminate the towers of small churches "*en batière*," or with a gable roof. Another typical termination was a low pyramidal roof (Ill. 138). In early times, roofs of this type were constructed of wood, as in the church of Ryes, whose tower dates from the XI century. In time this wooden roof came to be replaced by a precisely similar one in stone, with the idea of making the construction more durable and monumental. But the stone roof,

[1] *Arch. Norm.*, p. 162.

[2] Examples of octagonal towers may be found at Tamerville, Tordouet, Touques, Drubec, and Trévières (in part of the XIII century).

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in order that it might not offer a lodging place for snow and rain-water and hence become disintegrated, required a steeper pitch. The stone pyramid was therefore raised considerably and became a conspicuous external feature. The blank faces of its sides were relieved by dormers, at first very small — as in St. Contest (Ill. 136) — but soon made larger. The next step was to make the pyramid octagonal instead of square, and the spire had come into existence.

The adjustment of octagonal spire to square tower became one of the great problems which Gothic architecture had to face. There were later found many solutions and partial solutions. But the Norman builders seem to have hit at once upon the most successful of all. Turrets were added in the unoccupied corners of the square, and by means of these and the dormers the transition was effected (Ill. 137). The principle was early established, but there was need of long years of experiment and adjustment before perfection of design, of proportion, and of detail could be reached. This perfection, however, was finally attained in the Gothic period.

The evolution of the spire followed precisely the same course in the Ile de France as in Normandy; and the absence of surely dated monuments in Normandy [1] makes it difficult to decide which school is the originator, which the copyist. On the one hand, Normandy was freely borrowing other architectural features from France at precisely this period; on the other, Normandy always had been and continued to be *par excellence* the land of towers. The Gothic spire never reached such perfection in France as it did, for example, at St. Pierre of Caen. It is not improbable that the two schools may have advanced hand in hand, each aiding the other. The dormer was probably primarily the contribution of Normandy, the angle turret that of the Ile de France.

In addition to towers and spires, turrets came into general use in the last years of the XII century. These turrets were usually built to contain spiral staircases leading to various parts of the building. They were useful, however, from a purely

[1] Elementary spires in Normandy occur at Aizier, St. Contest, Colleville-sur-Mer, Campigny (c. 1200), Chambois, St. Michel of Vaucelles (near Caen), Commes, Ver.

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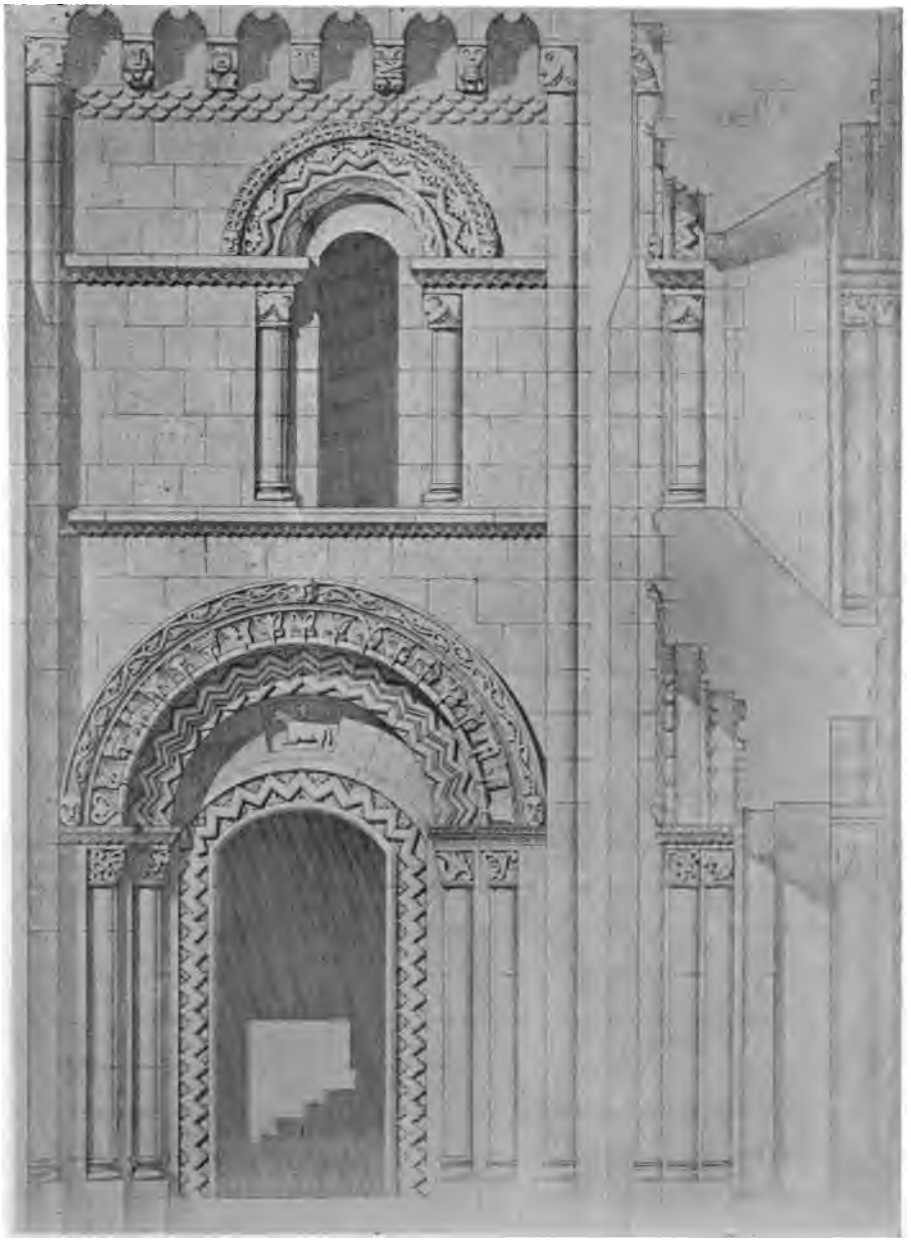

Ill. 141. — Doorway of St. Contest. (From Ruprich-Robert)

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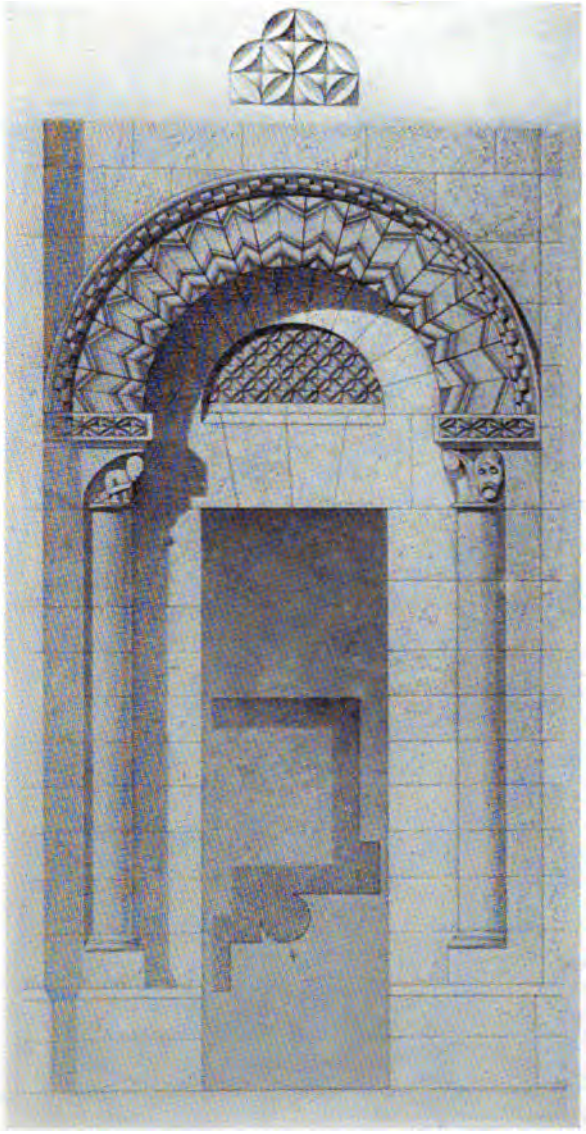

Ill. 142. — Doorway of Cheux. (From Ruprich-Robert)

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decorative point of view. By their aid the Normans found a new solution to the problem of the design of the western façade — a solution of which St. Georges de Bocherville is a fine example (Ill. 135). Turrets were here placed flanking the central gable, thus relieving the awkward basilica section. Turrets were also grouped with towers to produce the most charming and picturesque effects, as at St. Contest (Ill. 136). This last motive became one of the characteristics of Norman Gothic, and was developed into such lovely compositions as the spires of the Cathedral of Coutances (Ill. 255).

After the middle of the XII century, Norman architecture began to lose its individual character. The sexpartite vault and concealed flying buttress were abandoned. Little by little, the style of the Ile de France came to be adopted. Portions of the Cathedral of Rouen, the Abbey of Fécamp (1168), and the Abbaye Blanche of Mortain were among the earliest edifices designed entirely under French influence. These exotic buildings, however, do not seem to have immediately given rise to a school in conservative Normandy; especially in small churches the style continued long almost unchanged. Then gradually one feature after another of the new style of building made its way.

If we are right in assigning the nave walls of the Abbaye-aux-Dames to c. 1140, the western bay of this church offers probably the earliest example of a French quadripartite rib vault in Normandy. Its use here is probably explained by the fact that, since the bays of the nave were of unequal number, it was impossible to vault all the nave with sexpartite vaults. Elsewhere, these French vaults were only reluctantly adopted, and it was the last quarter of the XII century before they were well established in Normandy. About 1175 they occur in the Abbey of Lessay, at La Madeleine of Verneuil, at Barre-de-Semilly, and elsewhere.

The pointed arch also made its way but slowly. The earliest extant instance of its use[1] is, I believe, the church of Genets, which was consecrated in 1157. It here occurs in connection with a groin vault, and is not used for any structural reason.

[1] Outside the three exotic edifices, Rouen, Mortain, and Fécamp.

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After this date the pointed arch occurred with increasing frequency, but was always used in a purely fanciful and decorative manner, as in the façades of Manéglise and Pontorson (Ill. 140).

Simultaneously with the French vault and the pointed arch, the ambulatory began to make its appearance in Normandy. Unfortunately not a single example is dated, but the ambulatories of Breteuil and Verneuil[1] may be safely assigned to the last quarter of the XII century. There is an ambulatory at Broglie which is usually said to be of the XI century. I have not examined this on the spot, and I do not know how far the style of the construction justifies this tradition. If this date is authentic, Broglie is the only extant example of an XI century ambulatory in Normandy, although, strangely enough, ambulatories frequently occur in the early Norman monuments of England.

Thus one feature after another was adopted from the Ile de France by the Norman builders, who, however, never ceased to retain many of the peculiarities of their own style. The union of these two elements gave birth to the Norman school of Gothic.

While Norman construction thus pursued a somewhat vacillating course, the development of the ornament was far more uniform.

The monuments of the first half of the XI century that have come down to us show but little ornament and that so sadly mutilated as to be hardly distinguishable. It is probable that the inexperience of the early builders induced them to avoid the difficulties of executing carved ornament. Later Norman decoration, however, contained motives derived from three sources: first, motives obviously developed from Carolingian prototypes, however much refined and developed; secondly, motives derived from Lombard sources; and, lastly, original motives invented by the Normans themselves. The last two classes have left no trace prior to the building of Jumièges, but it is reasonable to suppose that motives of the first class, being part of the common Carolingian tradition, were known in Normandy during the

[1] Church of Notre Dame.

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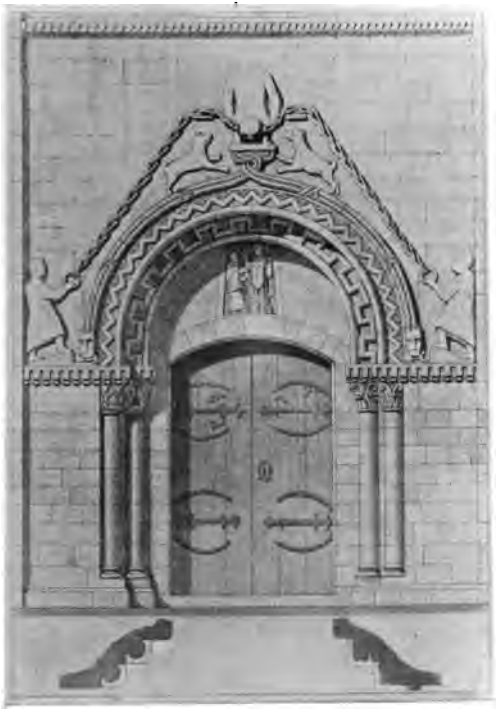

Ill. 143. — Doorway of Ste. Croix, St. Lô.

144. — Doorway of Beaumais. (From Ruprich-Robert)

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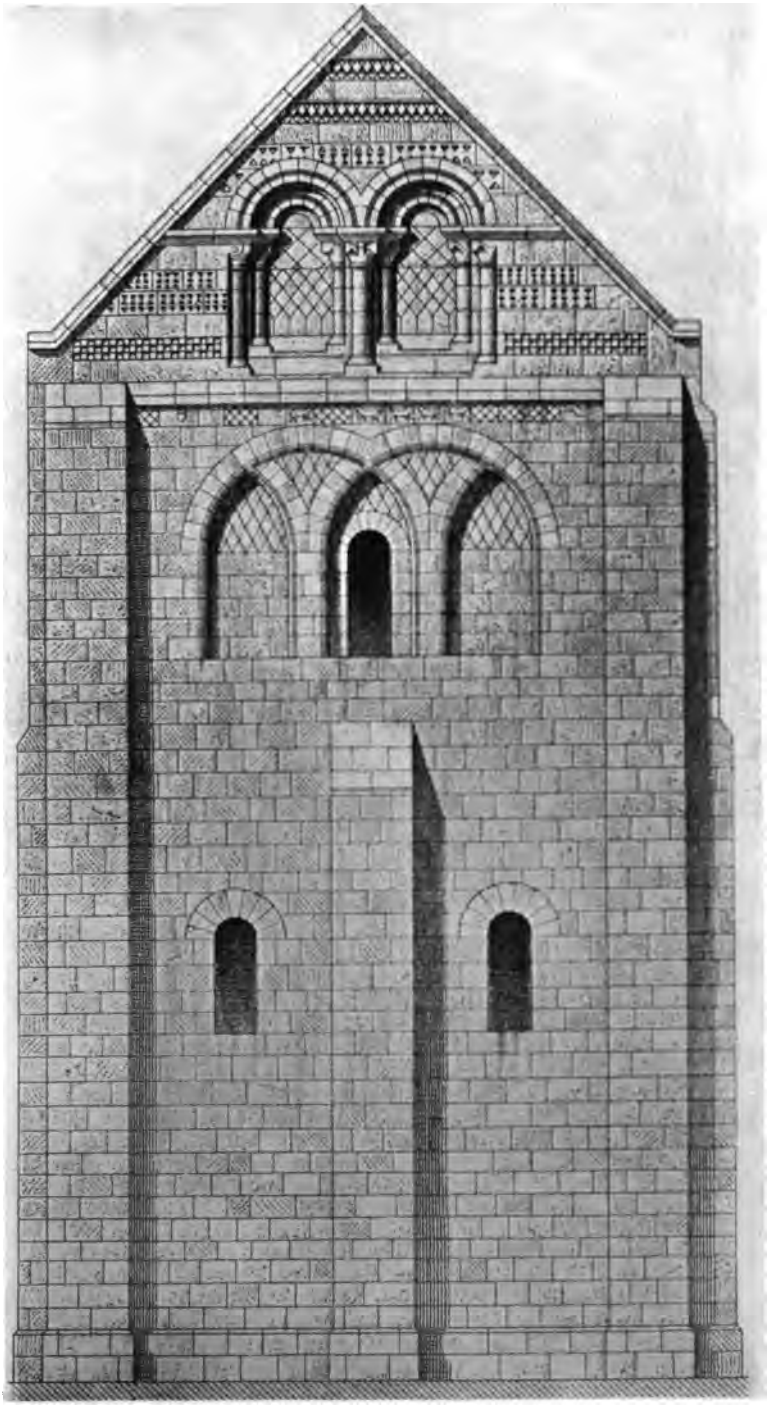

ILL. 145. — North Transept End, Graville-Ste.-Honorine (From Ruprich-Robert)

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first half of the XI century, although no actual examples earlier than 1050 have survived.

The most important of all the ornaments belonging to this first class is the familiar Carolingian triangular motive. At the end of the third quarter of the XI century this motive took on a new form — known as the chevron[1] (Ill. 140, 142), which assumed great prominence not only in Normandy but throughout western Europe. It would be interesting to know where the chevron was first developed; this, however, is a problem that probably can never be solved. Since Normandy is near the center of the influence of this ornament, it is not unlikely that it may here have been first evolved. At all events, wherever its origin, the chevron became *par excellence* the typical Norman ornament.

It would require a special monograph to describe adequately the various forms this motive assumed. Sometimes merely chipped on the edge of a square member,[2] sometimes of simple (Ill. 143), sometimes of complicated profile (Ill. 142), single, double, triple, or quadruple, it was endlessly varied. Generally speaking, the earlier types are simple; double chevrons hardly occur before the XII century, and it is only at the end of that century that the chevron expands into all its exuberant richness.[3]

This motive came to be especially associated with the ornamentation of arches. No other decoration was as effective in enriching the heavily ornamented doorways and portals so characteristic of the Norman style (Ill. 140, 141, 142, 143). Thus it is generally on voussoirs that the chevron is to be found. It is noteworthy that, since these voussoirs were carved before being placed, each voussoir contains a unit of the pattern. Now, as each voussoir was ordinarily of slightly different size from its neighbors, there resulted a strange lack of regularity in the execution of the ornament. This irregularity, far from being unpleasant, is full of charm, and lends this rather barbarous motive something akin to refinement (Ill. 142).

[1] Also as the zig-zag or *bâton rompu*.

[2] This form is especially popular in the département of Manche.

[3] Carolingian triangular ornament survived in other forms in various scattered monuments. Instances may be found on the towers of St. Étienne, or on the façade of Ste. Trinité of Caen; at Rothes, and in England at the cathedral of Norwich, etc.

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Since most of the many forms assumed by the chevron are easily recognized on sight, it is unnecessary to describe them in detail. Two variants, however, are of such importance that they might almost be considered as independent motives. The first, the dog-tooth or star ornament[1] (Ill. 144), departs widely from the chevron type, and may possibly be derived directly from such a Carolingian ornament as is found on the voussoir of the arches of the Basse Oeuvre at Beauvais (Ill. 96, Fig. 2).

The earliest example I can name of the dog-tooth occurs in the church of Rothes, which dates certainly from the XI century. Throughout the XII century the ornament continued to be common in Normandy, but died out in the Gothic period. It spread to England, however, where it became the most characteristic decoration of the XIII century; and its use was not unknown in France, especially in the neighborhood of Troyes about the year 1170.

The second peculiar form of the chevron is the fret or meander (Ill. 143), which, strangely enough, reproduces exactly an old classical motive (Ill. 3). The earliest example I know occurs upon the main arcade of the Abbaye-aux-Dames of Caen (Ill. 128); and I believe that it is never found before the XII century. During the last half of the XII century it constantly recurs in Norman work.

After the chevron, the most important decoration which the Normans derived from Carolingian sources was the engaged arcade. This feature, which we have already noticed at Germigny-les-Prés (Ill. 89), was common to almost all western Europe, although the Normans developed it in a fashion peculiarly their own. Engaged arcades were employed as early as 1067 on the towers of Jumièges (Ill. 121, 122); the original clear-story of the Abbaye-aux-Hommes erected soon after, was probably supplied with exterior arcading (Ill. 126); and the towers of this monument certainly were (Ill. 133). However, the use of the engaged arcade was exceptional during the XI century; it was only in the XII century that the motive came into its own and was employed constantly, inside and outside, everywhere, upon the edifice. This ornament, it should be noticed, is always carved into the thickness of the wall, and never applied to it.

[1] Also called the pyramid-flower.

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ILL. 146. — Norman Capitals and Bases. (From Ruprich-Robert)

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ILL. 147. — Griffes, Capitals and Ornament of the XII century. (From Ruprich-Robert)

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Exclusively Norman[1] was the idea of doubling the arcade so as to let the archivolts intersect. The earliest example of this variation occurs at Graville-Ste.-Honorine, c. 1100 (Ill. 145). In this instance the archivolts are not carried on colonnettes, but these were soon added. Another very early example of double arcades is to be found at Huppain, and one of the earliest instances of the fully developed form with colonnettes occurs at Allemagne, near Caen. In Normandy the use of this motive was always restricted. It never attained the popularity nor ran the riot of extravagant forms that fell to its lot in England.

In contrast to the varied forms assumed by the chevron and the engaged arcade, the Carolingian billet moulding persisted throughout the Norman period without change except that it was occasionally enriched by doubling or tripling the rows of teeth (Ill. 142, 143, 144).

Far otherwise was it with the Norman capitals, which show the most diverse forms and influences, although even the most divergent types always bear an unmistakably Norman character. The cubic capital (Ill. 123) is of frequent occurrence and was probably imported directly from Lombardy. The lobed capital (Ill. 147, Fig. 9) is a natural embellishment of the cubic type. On the other hand, the numerous Corinthianesque types (Ill. 146, 147) are directly derived from Carolingian tradition, being merely simplified to meet Norman requirements. The endless number of types assumed by Norman capitals makes it extremely difficult to trace any chronological development; it is the exception to find analogies for any given capital. Generally speaking, the simpler forms seem to be earlier, the more complicated later. The technique and carving, crude in the XI century (Ill. 146), became skilful in the XII (Ill. 147). In the last half of the XII century, elements borrowed from the Ile de France commenced to make their appearance. Occasionally in the XI century and frequently in the XII the abaci of engaged capitals were continued to form string-courses.

[1] While this motive rarely occurs outside of Normandy and England (for example, at Mornay-Berry, Cher) it remains, generally speaking, the peculiar property of the Norman and the Anglo-Norman schools.

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From Carolingian sources, the Normans derived the idea of ornamenting the blank wall spaces of the interior with frescoes. It is difficult to say how far this ornamentation was carried by the Normans, since only a very few examples have come down to us. The most notable is at St. Céneri; other fragments of mural decoration also survive at Petit-Quevilly, Savigny, Pin-la-Garenne, and Charleval. It is not unlikely that the inside walls of all Norman churches were originally covered with colored decoration. These frescoes included not only figure subjects, but conventional ornament representing imitation stone joints, interlaces, and other patterns of a similar character.

Such were the Norman ornaments derived from Carolingian sources. Less numerous, but hardly less important, were those derived from Lombardy. We have already spoken of certain Norman capitals as showing Lombard influence. But the most characteristic Lombard motive borrowed by the Normans was the arched corbel-table. This motive that we have already seen invented in Italy and enjoying such popularity there, rapidly spread over all Europe, and is one of the clearest proofs of the influence exerted by the Lombard school. It hardly arrived in Normandy before the XII century, when, however, it assumed a great variety of forms (Ill. 141). Curiously enough, the flat corbel-table which, we found reason to believe, was derived from the arched form in Lombardy, much preceded it in Normandy. This fact seems to lend color to the theory which sees between the two forms of the corbel-table no connection, and derives the flat type directly from the modillion of the classic Corinthian order. It might, however, easily be that the Normans borrowed the latter form first, as being of simpler execution.

Also of Lombard derivation are the grotesques that adorn the flat corbel-tables, the voussoirs, and occasionally the capitals; and Lombard are the beaks of birds and the strange heads (Ill. 141, 147), rows of which surround the rich doorways of the XII century. Many of these representations, especially on the corbel-tables, are frankly obscene,[1] and yet such carvings, for all their coarseness, often possess an undeniable charm of humor

[1] Examples may be found at Notre-Dame-sur-l'Eau of Domfront, Cintheaux, Beaumais, Biéville, Montgaroult, Bretteville-sur-Odon, St.-Pierre-du-Mont, Pierrepont.

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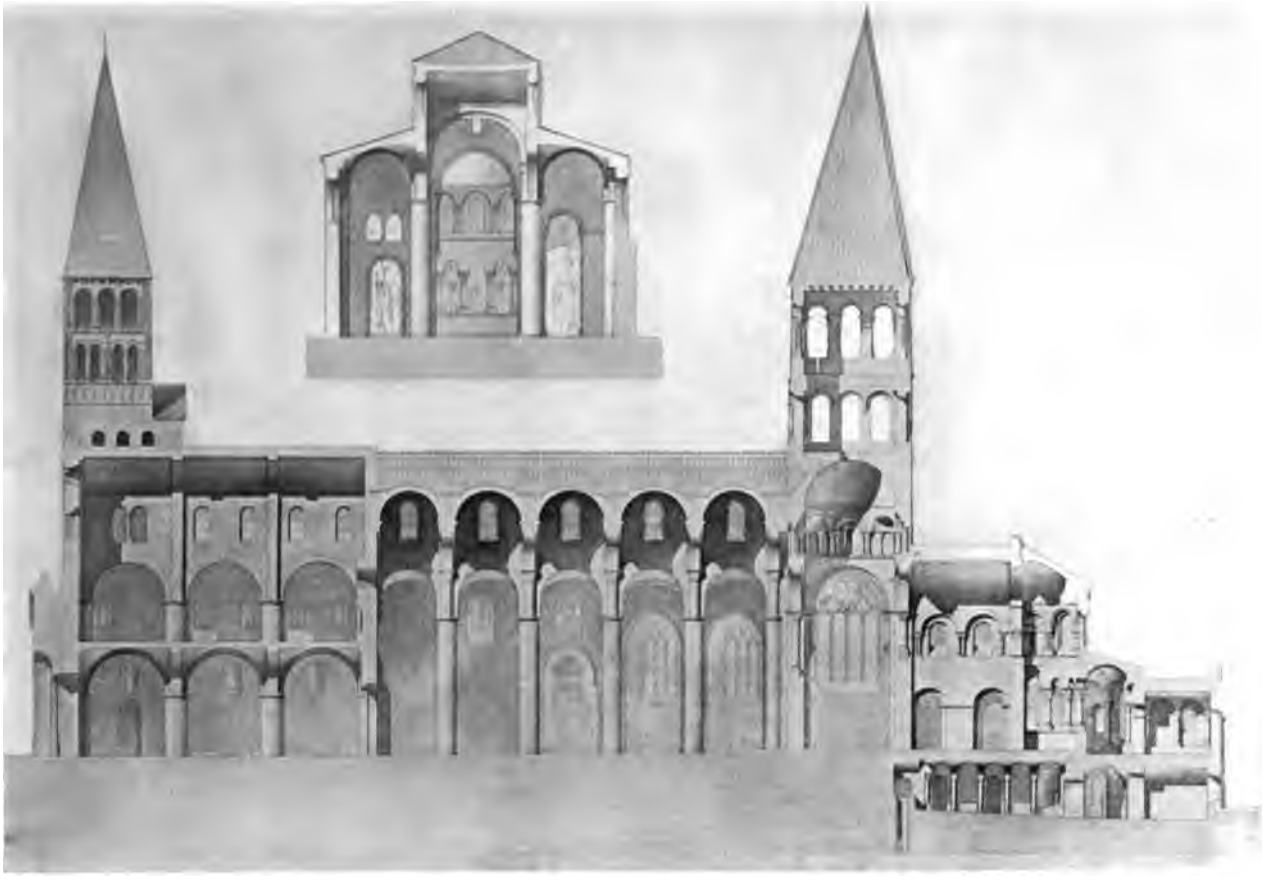

ILL. 148. — Section of Tournus. (From Arch. de la Com. des Mon. Hist.)

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and naïveté. Thoroughly Lombard, too, are the crude attempts at statuary sometimes found in the tympana of XII century portals (Ill. 143). It is only necessary to compare these childish efforts with the contemporary work in the Ile de France to realize that the Norman school was exclusively under the influence of Lombardy in its figure sculpture.

The bases of Norman piers betray Lombard influence in the use of griffes (Ill. 147), — a device as characteristically Italian as the arched corbel-table. The profiles of these bases are of two general types, as may be seen from the reproductions (Ill. 146, 147): the first is generally conical in form, each moulding in turn receding a little from the one below it; the second is Attic in character. Neither of these types of base was appreciably modified, except in technique, until the arrival of influence from the Ile de France.

Distinctly Lombard was the substitution of shafts for buttresses in certain apses of Normandy. Examples of this may be found at St. Nicolas of Caen, at Cheux, and elsewhere. The doubling of orders was probably likewise derived from a Lombard source, though it was often employed in connection with the Carolingian motive of grouped openings. Such grouped openings in two orders were introduced into Normandy even before Jumièges, and were regularly employed throughout the last half of the XI century. In the XII century, the orders were often tripled or quadrupled.

Buttresses, also derived from Lombardy, were developed in Normandy in a purely ornamental manner. Rarely, if ever, is the stability of the walls dependent upon them. In the XI century they were always very flat,[1] and while perhaps giving a certain support to the walls, their principal function was to express externally the internal bays. In the XII century certain vaulted naves, such as those of Than or Creully were erected without any external buttresses at all; in other cases, such as Biéville or Anisy, the buttresses are reinforced with a second order doubtless purely ornamental in purpose, since these naves are roofed in wood. In just such a purely decorative spirit buttresses

[1] According to M. Ruprich-Robert, *Arch. Norm.*, p. 147, their projection varies from 0.15–0.20 meters and their width from 0.50–0.60.

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were often given a somewhat pyramidal form, and their angles ornamented with slender colonnettes.

Of the ornaments that were probably evolved by the Normans, the most important is the roll moulding. This appeared almost simultaneously all over Europe, but may well have been developed independently by the several schools. It is difficult to state with precision when mouldings first appeared in Normandy; several of what might naturally be supposed to be the earliest instances, I suspect of having been added long after the buildings were constructed.[1] At all events, there is no question that they were occasionally used before the close of the XI century, as at St. Nicolas of Caen and in a few other examples. It was only in the XII century, however, that they became universal. The Normans never advanced beyond the plain roll moulding. Large and clumsy at first, it became fine and varied by the middle of the XII century, after it had been modified by influence from the Ile de France. However fine or complicated it might become, however, throughout the Norman period it always remained a roll moulding; — that is, the profile was always some portion of the segment of a circle (Ill. 143, 144).

At about the same time[2] that mouldings came into use, it became customary to shaft windows and doorways, and the angles of towers and buttresses. The square edges of angles were rounded off into slender engaged colonnettes usually supplied with capitals and bases. In windows and doorways such colonnettes supported the mouldings or extra orders of the arch. This motive soon attained popularity, and was carried to great lengths. Each of the many orders of the rich Norman portals was ordinarily supported by a shaft placed in the jamb. This motive, like so many others employed by the Normans, is common to most of Romanesque Europe, so that it is difficult to tell when or where it first came into being (Ill. 140, 141, 142, 143, etc).

Over their rich doorways (Ill. 141, 142, 143, 144), the Normans occasionally, as at Ifs, built out a sort of gable with a tri-

[1] Notably the archivolts of the Abbaye-aux-Hommes.

[2] The clearstory of Falaise offers the earliest example of shafted windows that I know. Shafted doorways were used much earlier.

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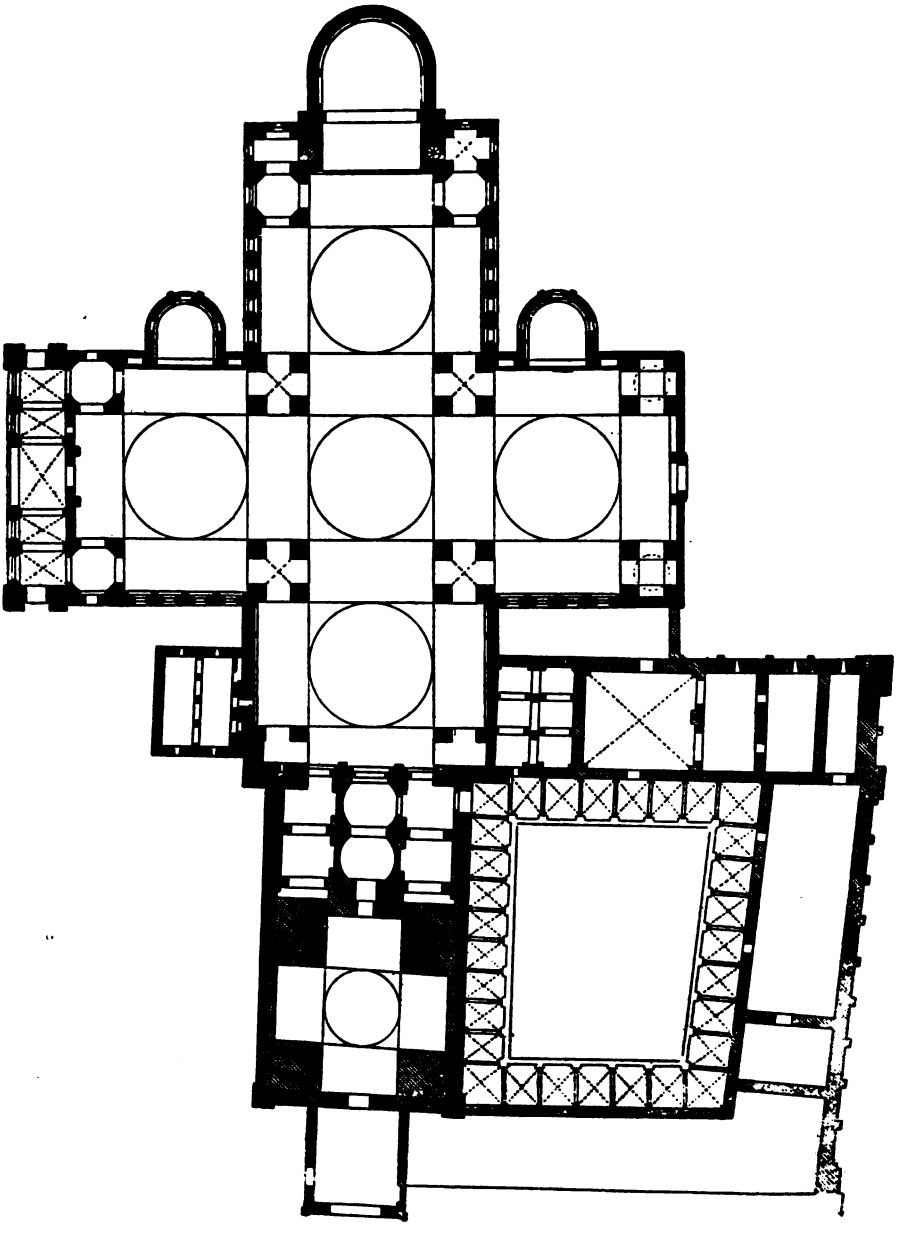

Ill. 149. — Plan of St. Front of Périgueux. (From Dehio)

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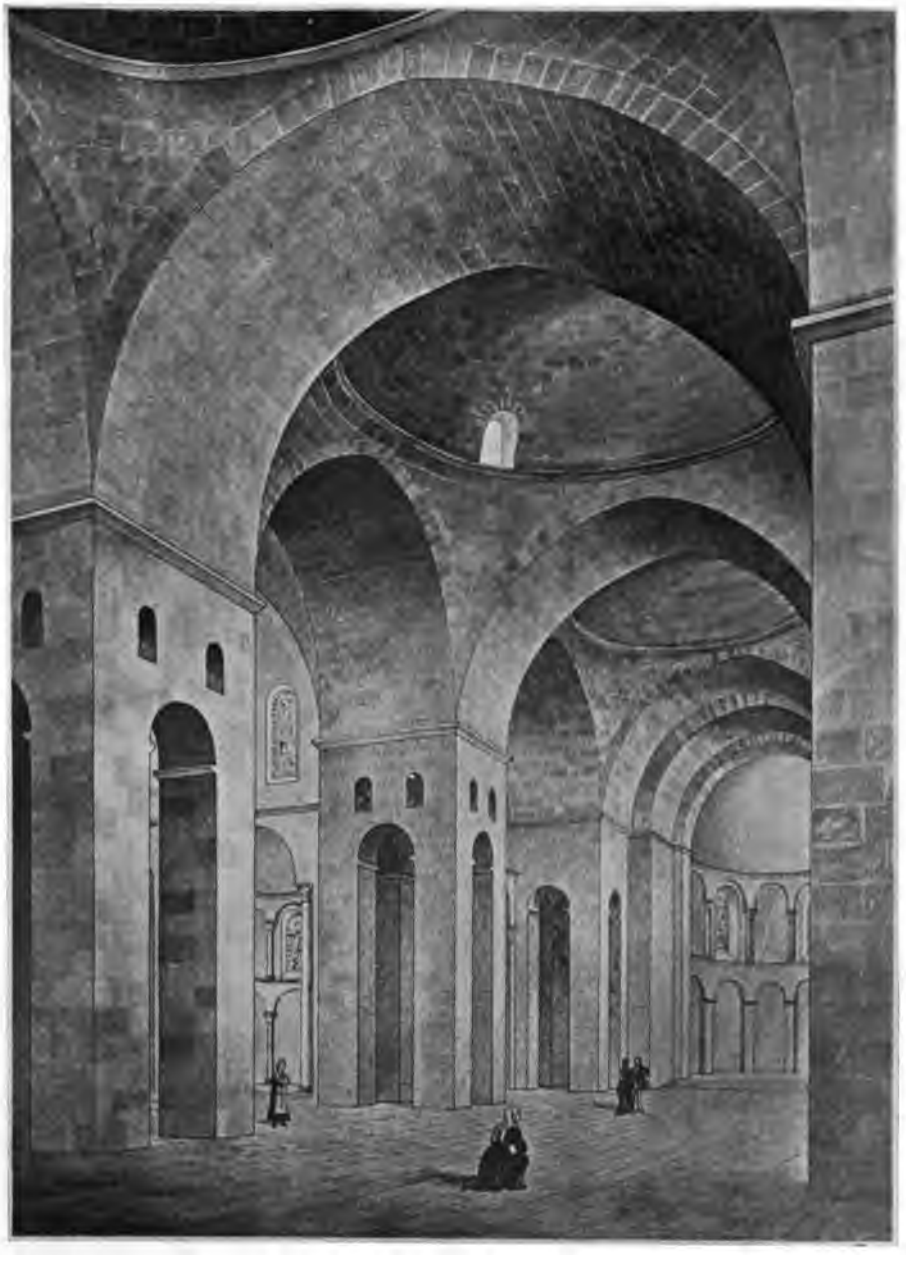

Ill. 150. — Perspective of St. Front of Périgueux. (From Dehio)

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angular pediment.[1] These gables, which seem to have replaced the wooden porches commonly placed in this position in Norman edifices, strangely foreshadow the Gothic open-work gable. In the portal itself, beneath the orders of the arch was usually a lintel, or sometimes, as at St. Nicolas of Caen, a flat arch; in the XII century this lintel often had two corbels placed under its extremities. A few examples of portals with segmental arches are found.[2]

Arches of horseshoe form occur in Norman architecture at Tamerville, Quillebeuf, and Ste. Mère-Eglise. They seem, however, always to have been a freak of construction, rather than a peculiarity of the style. Similarly oculi, or small round windows, are employed occasionally as early as the XI century. At Colleville they were placed high in the tower. Such oculi, however, are seldom or never found on façades, and it is impossible to see here the germ of the Gothic rose window.

Diapered spandrels[3] occur at the cathedral of Bayeux and at Secqueville-en-Bessin. The restraint with which so rich an ornament was used, is characteristic of the spirit of Norman decoration, which is never florid nor over elaborate.

Take for example, such a typical design as the façade of Ouistreham (Ill. 139), or that of Pontorson (Ill. 140). Neither of these compositions is, in the strict sense of the word, logical. The master builder has been much more preoccupied with creating a pleasing design than with expressing faithfully structural features. Yet there is nothing about these façades that is absolutely false. If the arcades, the blind arches, the extra orders are simply and frankly ornaments, if the façade does not proclaim the interior, there is at least no lie told about it. And all this ornament is applied with thoughtful moderation and often with the most exquisite taste.

As a study in pure design, the Norman architecture of the

[1] On this question see the admirable study of M. Lefèvre-Pontalis in the Bulletin Monumental for July, 1907.

[2] At La Luzerne and Graye. It is interesting to remark in this connection that at Ranville (Calvados) there is a curious example of the arcuated lintel, recalling strangely that peculiarity in the churches of Syria.

[3] A spandrel is the triangular space enclosed between the two arches of an arcade. Diapered ornament is a decoration applied to all parts of the surface — an all-over pattern.

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XII century is almost always charming. If it lost the grim majesty of Jumièges, and the somewhat gloomy grandeur of the abbeys of Caen, yet to the end it never became effeminate. The Norman artists seem always to have felt that with their imperfect technique, excessive ornament was fatal to effect; that their noble and dignified style became ridiculous the moment it disported itself in a riot of arcades and shaftings. Accordingly, the art of Normandy never fell into that excess of florid ornament that characterized at times the Anglo-Norman style.

The Normans were probably saved from this excess of decoration by the very fact of Norman provinciality in the XII century. Rich ornament was expensive, and very few costly monuments were erected in Normandy at this period. Still it must in fairness be admitted that in the cathedral of Bayeux, — the only great church of the XII century that has come down to us — there is shown a taste, a sense of proportion, far superior to the best contemporary work in England. When the splendid achievements of the Normans in the XI century are considered, it must be held a great artistic loss that so little has come down to us from the time of the real apogee of the Norman style.

Compared with contemporary styles, Norman art has little to fear. In the XI century it was supreme in Europe; and even in the XII century, it yields neither in delicacy of design, charm of ornament, nor virility of conception, to any other architecture save only to that of the Ile de France.

Before studying in the Ile de France the final solution of the problem of the vaulted basilica, it is necessary to cast a superficial glance at certain of the Romanesque schools that flourished during the XI and XII centuries, especially in the south of France. Nothing could illustrate more clearly the extraordinary vitality and versatility of medieval architecture at this period than the fact that to a problem of such difficulty it was able to propose so many different answers, none of which was without striking merit. The very ingenuity of these other solutions make patent the perfection of Gothic architecture.

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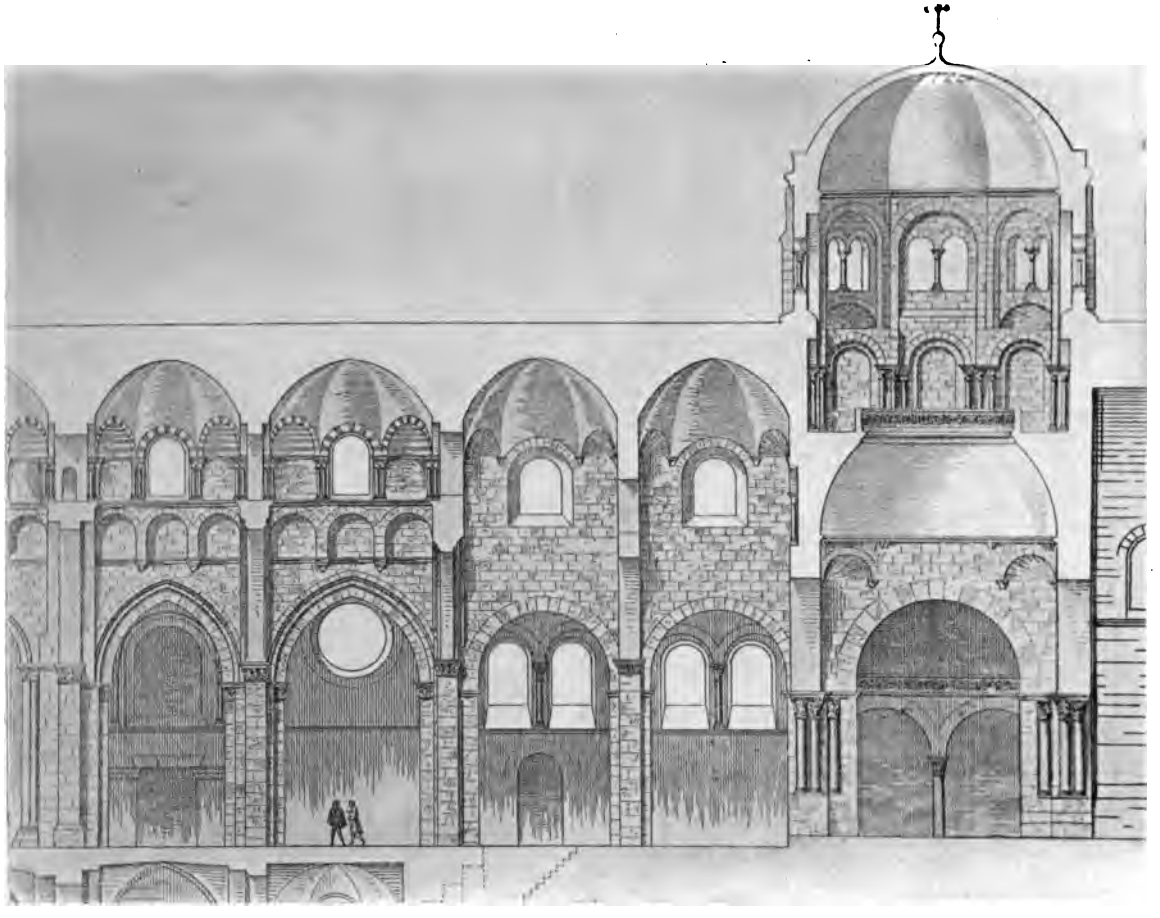

ILL. 151. — Section of Notre Dame du Puy. (From Dehio)

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Of all forms of vault, the barrel vault was the most popular in the south of France. Its use was confined to no particular school or group of schools, but was characteristic equally of Burgundy, of Auvergne, of Berry, of Provence, and of Languedoc. The great difficulty which it offered was the enormous and continuous thrust exercised by a barrel vault of the size necessary to cover even a small nave. To minimize this thrust the pointed arch was employed in some instances at least as early as the last decade of the XI century. But even so, in large monuments the stability of the vault could be assured only by continuous buttressing; and continuous buttressing could be secured only at the expense of the clearstory. This sacrifice the French builders, always logical, did not hesitate to make. The aisles or the triforium galleries were raised high enough that their barrel vaults might buttress those of the nave, or even better, the barrel vaults of the aisles or galleries were replaced by half barrel vaults, which much more adequately performed this function. (See St. Sernin of Toulouse, Ill. 130.)

Although this solution was logical and perfectly structural, it eliminated one of the loveliest features of the Christian church, the clearstory. In order to preserve the clearstory the designers of the abbey church of Tournus (Ill. 148) tried a new plan, full of ingenuity. The barrel vaults were built across the nave in the transverse, instead of in the longitudinal sense, being supported by a series of transverse arches. Thus each vault buttressed its neighbor, there was no thrust exercised on the lateral walls, and the clearstory was preserved. This solution, the most ingenious and logical of all, seems never to have been copied, probably because the esthetic effect was not happy, the upper portions of the church being broken up into a series of restless undulations.

A totally different solution was found in a special school which flourished in Périgord, Poitou, and Anjou, especially along the banks of the Charente. This school adopted the Byzantine plan and construction. However the idea came, whether from Constantinople direct, or by way of Cypress or Italy, St. Front of Périgueux (Ill. 149, 150) reproduced in everything except ornament the Church of the Apostles of Constantinople, built

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by Justinian and now unfortunately destroyed. Many other examples of this same school of the Charente have come down to us, all notable for three or more domes on pendentives. This school often employed the pointed arch. The churches of the Charente reached greater artistic perfection than any other Romanesque structures, except the monuments of Normandy; and after the Ile de France, this school must be credited with the most successful solution of the problem of the vaulted basilica.

In Italy, with S. Marco of Venice as its fountain-head, there grew up another Byzantine school, similar to that of the Charente, but even more thoroughly Oriental in character. Here the ornament as well as the structure was Eastern; the arches were round, and the walls, instead of being built of finely dressed masonry, were constructed in the old Roman manner of rubble coated with marble and mosaics. At Padua, this school commenced to take on a certain local and individual character, but simultaneously lost most of its charm.

At Notre Dame du Puy, the Byzantine domes of the school of the Charente seem to have been adopted, but modified by a combination of motives derived from Tournus and Lombardy. The roof was formed by a series of Lombard cloistered domes on squinches, supported by transverse arches. The idea was ingenious and original, but it never attained great popularity (Ill. 151).

Still another variant of the Byzantine designs of the Charente was tried at St. Ours of Loches. Here the dome was replaced by a hollow stone pyramid, forming a sort of spire externally (Ill. 152).

The groin vault, though known in France and Normandy, as well as in certain churches of Burgundy, like Vézelay or Avallon, found its most consistent application without the French border, in the school of the Rhine valley, whose masterpieces are the great cathedral churches at Mainz, Speyer, and Worms. The structure of these monuments was essentially Lombard (Ill. 153), except that for the rib vault the groin vault was substituted. The groin vault lacks both the structural utility and pliability of the rib vault, and the absence of strongly marked

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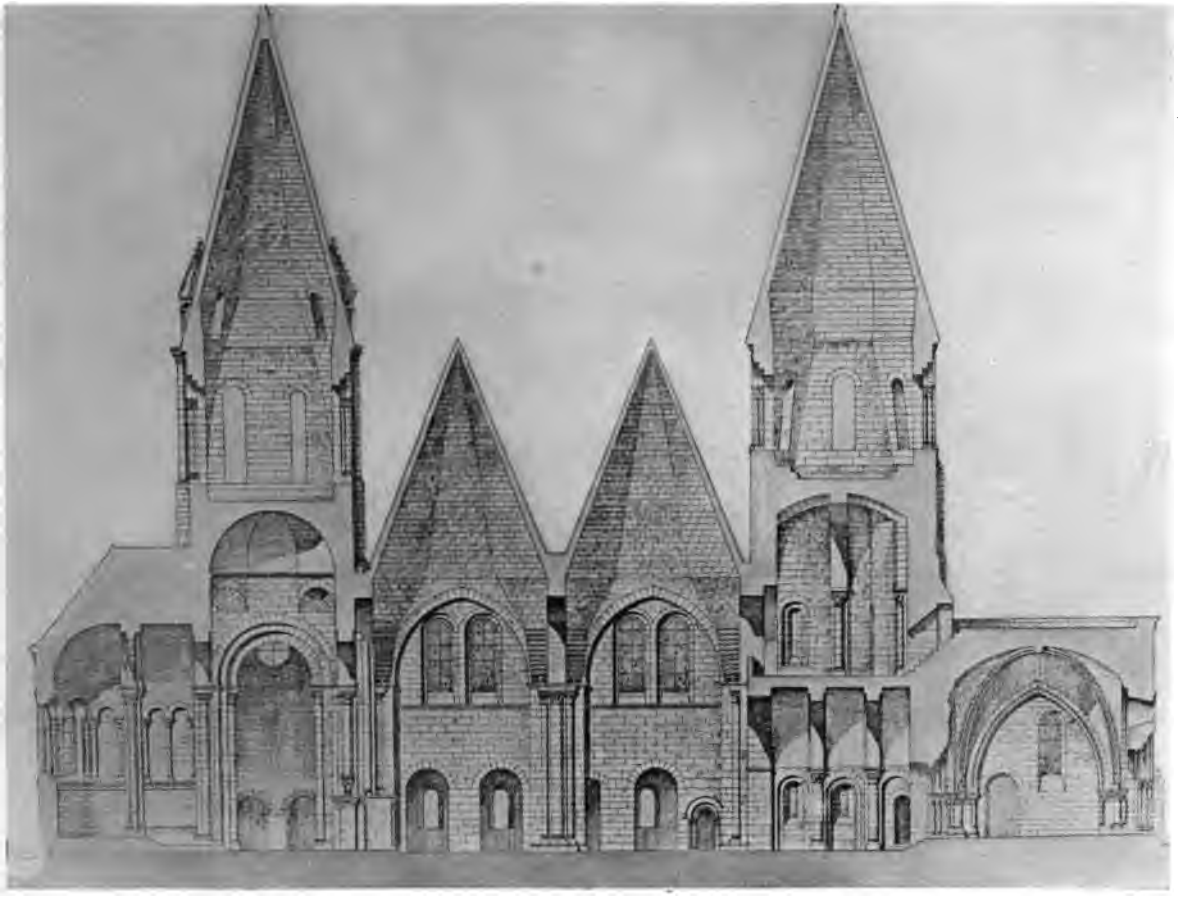

ILL. 152. — Section of St. Ours of Loches. (From Arch. de la Com. des Mon. Hist.)

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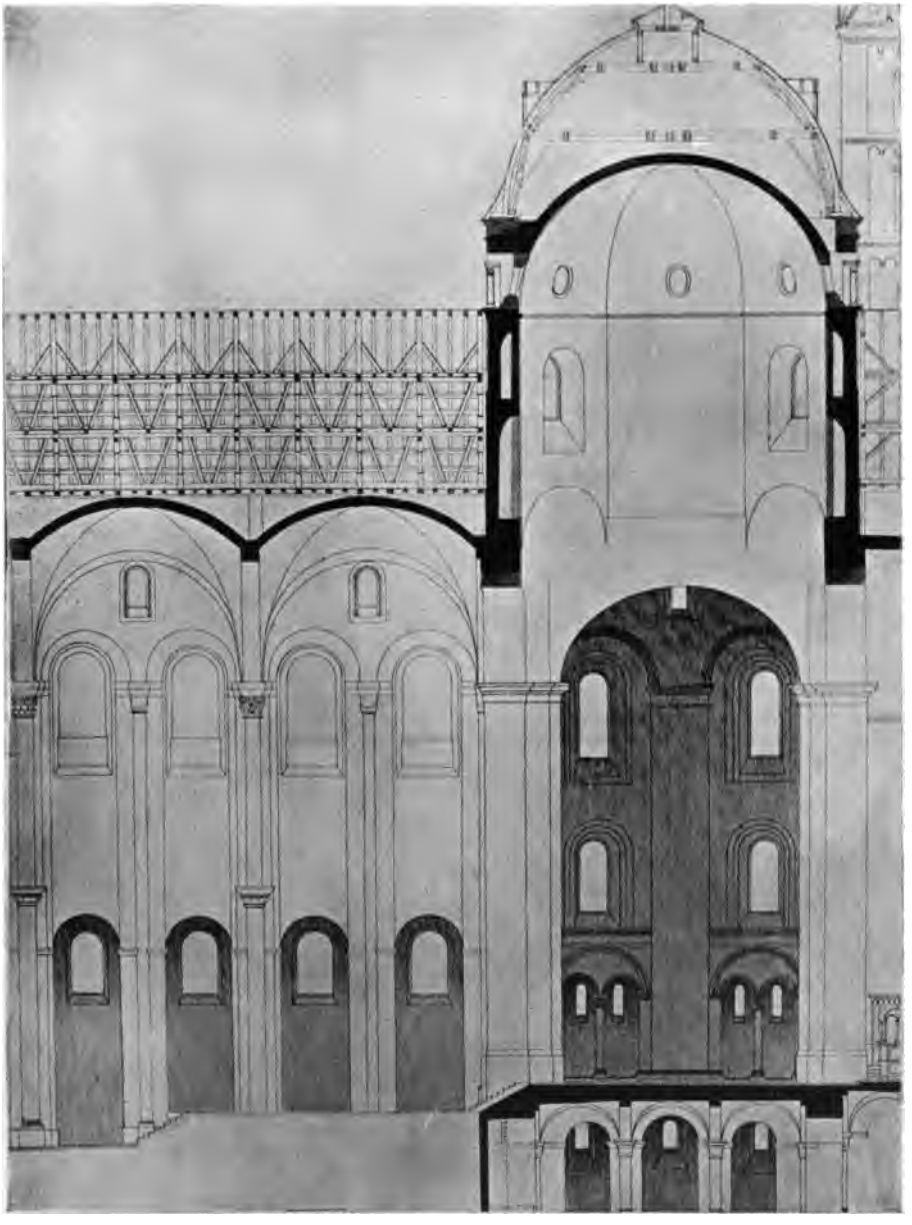

ILL. 153. — Section of Dom, Speyer. (From Meyer-Schwartau)

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lines is a distinct esthetic disadvantage. Yet these Rhenish monuments are among the most impressive achievements of medieval architecture.

Such were the principal answers proposed by the Romanesque builders to the problem of the vaulted basilica.

NORMAN MONUMENTS

Monuments of the First Importance

CAEN, Calvados. *St. Étienne*, or *L'Abbaye-Aux-Hommes*. (Ill. 125, 126, 131, 132, 133.) This important monument presents more than one difficulty of chronology. It is known from ancient documents that the abbey was founded by William the Conqueror as a penance imposed by the pope, as Ste. Trinité was founded by his wife Matilda.[1] Ruprich-Robert states, on what authority does not appear, that works were begun in 1064; at all events the consecration took place in 1077, for it is recorded in the chronicle of Orderic Vitalis that "in this year [1077] the abbey church at Caen was dedicated in honor of St. Stephen, the proto-martyr."[2] This date is furthermore confirmed by the following passage in Mabillon: "Matilda, the wife of Duke William, no less liberal than her husband, founded a convent for nuns. This abbey seems to have been finished before the monastery of St. Stephen, since the latter was consecrated in 1077, while the former is said to have been dedicated in 1066 [sic]."[3] The façade appears to be the oldest part of the existing monument, and it is therefore probable that for some reason the usual procedure of building was reversed, the west end of the building being constructed first. With the exception of the upper part of the towers and the spires — the latter an addition of the end of the XII century, — this part of the monument is thoroughly primitive in style. The style of the nave, on the other hand, is much more advanced than would be expected in an edifice dedicated in 1077. Although the mouldings on the archivolts must certainly have been added after this date, — perhaps at the same time that the nave vaults were executed — the original archivolts must have been in two orders, and six engaged colonnettes beside the shaft of the system must have been engaged on the piers — both most extraordinary features for the XI century. The system is alternate, but shafts are engaged on all the piers, intermediate as well as alternate. The present triforium balustrade was added in the Gothic period, perhaps in the XIV century. There can be no question that the nave was originally roofed in timber; when the present

[1] Willelmi Gemmeticensis, *Historiae Normanorum*, lib. VII, cap. XXII, p. 278; *Gesta*, Guillelmo Pictavensi contemporaneo scripta, p. 211.

[2] "1077. Eodem quoque anno coenobialis Basilica in honore Sancti Stefani Protomartyris, apud Cadomum dedicata est." — Order. Vital. lib. V, p. 548, cit. Inkersley.

[3] Mathildis Willelmi ducis conjux non minus liberalis fuit in condendo virginum monasterio. Perfectum fuisse videtur istud ante Sancti Stephani monasterium, cujus basilicae dedicatio longe serius facta est, anno scilicet MLXXVII, cum alterius anno MLXVI facta memoretur. — *Annal. Benedic.* lib. LXVI, Vol. IV, p. 645.

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vaults were erected, the shafts were cut down to the level of the clearstory string, the present capitals added, and a half barrel vault was thrown across the triforium in an unavailing attempt to buttress the main vaults. The date at which this all-important alteration was executed has been the subject of much controversy, and has been variously assigned by archæologists to anywhere from the first quarter [1] to the last half [2] of the XII century. The capitals, which obviously belong to this reconstruction, are very similar to those of the earlier portions of the monument, and seem to imply an early date; on the other hand, the profile of the ribs is advanced. These two facts may perhaps be best reconciled by assigning the vaults to c. 1135, a date which is not inconsistent with the broader tendencies of the architecture of the period. The crossing is marked by a lantern. The transepts end in tribunes, like the aisles, groin-vaulted, and to the eastward an absidiole opens off each arm. Externally the Norman church is remarkable for the blind arcade at the clearstory level and for certain shafted windows, both, however, features which may well have been added in the XII century. There is no documentary evidence for the reconstruction of the choir, but this must have taken place in the first quarter of the XIII century. The chevet — one of the masterworks of Norman Gothic — is divided into seven bays; the point where it joins the choir is marked externally by turrets, internally by heavier piers. The design conforms to that of the Romanesque nave to a remarkable degree. In general the buttresses are of the same type as those of Noyon, but the system of the rectangular portion of the choir is quite different from that of the chevet.

Ste. Trinité or *L'Abbaye-aux-Dames*. (Ill. 128, 132, 134.) The epitaph of Matilda still preserved in this abbey reads as follows: "This tomb of remarkable beauty covers Matilda, a royal scion, noble in character. The Duke of Flanders was her father, Adele her mother, Adele, daughter of Robert, king of the people of the Franks, and sister of Henry, possessor of a royal throne. She was married to the magnificent king, William, and lately built this church which she piously endowed and consecrated. She was the consoler of the needy, a lover of piety, a woman who having lavished her treasures in good works was poor to herself, but rich to the unfortunate. Thus she sought the fellowship of eternal life on the second day of November [1083]." [3] According to Ruprich-Robert, the construction of the abbey church was

[1] Moore. [2] Lefèvre-Pontalis.

[3] Egregie pulchri tegit haec structura sepulchri
Moribus insignem, germen regale, Mathildem.
Dux Flanditra pater huic extitit, Adala mater,
Francorum gentis Roberti filia regis
Et soror Henrici, regali sede potiti.
Regi magnifico Willelmo juncta marito,
Praesentem sedem recenter fecit et aedem,
Tam multis terris quam multis rebus honestis
A se ditatam, se procurante dicatam.
Haec consolatrix inopum, pietatis amatrix,
Gazis dispersis, pauper sibi, dives egenis.
Sic infinitae petiit consortia vitae.
In prima mensis, post primam, luce novembis.

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commenced in 1062, and the consecration took place ten years later. The monument, which presents many points of contact with St. Étienne, is of even greater interest than the rival abbey, because the choir is preserved together with the original groin vaults of the XI century. Notwithstanding the fact that the style of the architecture seems remarkably advanced for an edifice consecrated in 1072, Ruprich-Robert believes that much of the present building belongs to an earlier church which was but partially rebuilt in the time of Matilda, and that, in fact, the only portions of the existing structure dating from 1062–72 are the crypt, the walls of the aisles, the lower part of the three towers, and certain other fragments. He believes that the aisles and the choir were roofed in wood both in the church of Matilda and in the earlier edifice, the present groin vaults having been added afterwards, but still before the close of the XI century. This theory probably minimizes unduly the extent of the reconstruction by Matilda; however, the divergent architectural forms of the monument, some of which seem earlier, and others later than 1062–72, can only be explained by supposing that the church was thrice rebuilt during the last half of the XI century. Notwithstanding all these alterations, the edifice was again remodeled in the XII century — probably c. 1140, — when the present sexpartite vaults were erected. At this time the nave was entirely rebuilt above the ground story piers; even the lower orders of the archivolts were reconstructed. The façade also probably dates mainly from this time. The Abbaye-aux-Dames as it stands to-day is a church of three aisles. The system is uniform, but the vault of the nave is sexpartite with the exception of the westernmost bay which is quadripartite. Instead of supporting a portion of the vault surface as in the Abbaye-aux-Hommes, the intermediate transverse ribs merely carry a loaded vertical wall, rising to meet the crown of the vault at a sharp angle. The piers are square with four engaged colonnettes. There is no gallery; the triforium consists of a continuous arcade. The aisle vaults have no transverse arches or responds; above the aisles under the triforium roof are thrown half arches, forming in fact concealed flying buttresses. Eastern absidioles open off the transepts. The choir is flanked by side aisles ending in semicircular apses. The tower over the central lantern was finished only in the XIII century, and the tops of the western towers are an addition of the Renaissance.

St. Nicolas is a magnificent monument of Norman art, which has been somewhat unduly neglected, doubtless because the church is now desecrated and access to the interior — the most interesting part — is exceedingly difficult to obtain. According to Ruprich-Robert, who as usual cites no authority, this church was in construction from 1070 to 1083, and was consecrated in 1093. I have been unable to verify these dates, which, however, seem to be generally accepted. The monument of the XI century was a basilica of three aisles with transepts. The nave, of which the system was uniform with engaged shafts, was covered with timber, but the aisles were groin-vaulted, and supplied with transverse ribs. Four colonnettes were engaged on each of the square piers. The triforium consisted of four equal arcades in each bay, each pierced by an arch. The archivolts of the main arcades were in two orders, and certain ones were moulded. Two towers, only one of which, however, has been completed and that in the flamboyant style, flanked the façade;

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between the towers was placed a groin-vaulted narthex, opening on the street by three arches. The exterior of the nave was characterized by blind arches placed between the clearstory windows, and by buttresses of two orders. The transepts originally ended in groin-vaulted tribunes with eastern absidioles; these absidioles, like the main apse, were covered externally with curious conical spires evidently of much later date.[1] Side aisles terminating in absidioles masked externally flanked the choir which was covered by groin vaults on an oblong plan and with transverse ribs. The windows of the apse were in several orders and decorated with mouldings. (De la Balle; Ruprich-Robert; Moore, 45; De Caumont; etc.)

St. Michel de Vaucelles. The only part of this church belonging to the Norman period is the tower placed to the south of the choir. This tower, which is assigned by Ruprich-Robert to c. 1150, is crowned by a stone spire of the XIV century, and is supplied with a stair turret in one corner. The decoration unites with extraordinary success richness and restraint, and, indeed, this tower is one of the finest even of Normandy, the land of towers. The church itself is of slight interest: the square choir and its side aisles are of the XV century, the nave is of the XVI. (Ruprich-Robert CXXXVII; De la Balle.)

St. Gilles is of interest principally for the XII century nave, which still survives, although it has been much altered in the flamboyant period. The choir was demolished in 1862. The exterior of the monument dates entirely from the flamboyant era.

St. Georges du Château. This desecrated building, which it is possible never was a church at all, dates from the XII century, but was rebuilt in the XV century. (De Caumont, 37; Cotman.)

Église du Sépulcre is modern, except for the Romanesque portal with frets, which dates from the XII century. (De Caumont, 39.)

BAYEUX, Calvados. *Église Cathédrale Notre Dame.* "In the year of our Lord 1076, the 14th indiction, several churches in Normandy were dedicated with great pomp. Notably the cathedral churches of Bayeux and Evreux were consecrated in honor of the holy mother of God, the Virgin Mary."[2] An entry of the year 1087 in the same chronicle further states that "Odo, bishop of Bayeux, began from the foundations the church of the blessed mother of God, Mary, and finished it in splendid style, and endowed it abundantly with many riches and ornaments."[3] Now, since Odo became bishop of Bayeux in 1049 and died in 1097, he might well have consecrated in 1076 the church which he had begun in the early part of his episcopacy. Of this cathedral of Odo only the crypt survives, the remainder having perished in 1105, as is inferred from a third passage in Orderic Vitalis: "In the same year, 1106 (lege 1105) King Henry crossed into Neustria to besiege Bayeux. Accord-

[1] Perhaps of the XIII century. Analogous constructions are found, I believe, only at Norrey and Audrien.

[2] Anno ab incarnatione Domini MLXXVI, indicatione XIV, basilicae plures in Normannia cum ingenti tripudio dedicatae sunt. Matrices ecclesiae Baiocensis, Ebroicensis episcopatus dedicatae sunt in honore sanctae Dei genitricis et perpetuae virginis Mariae. — Order. Vital. lib. V, p. 548.

[3] Odo Baiocensis episcopus ecclesiam sanctae Dei genitricis Mariae a fundamentis coepit, eleganter consummavit, multisque gazis et ornamentis affatim ditauit. — *Ibid.*, lib. VIII, p. 665.

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ingly the King stormed the city forthwith, and, having thrown fire within, he burned it."[1] Du Moulin explicitly states that the cathedral perished in this conflagration: "Nevertheless the king besieged Bayeux. The city was taken by the first assault, and burned together with the church (which the king afterwards caused to be rebuilt)."[2] In 1855 works of restoration necessitated the demolition of the piers of the crossing. Embedded within these piers were found other piers, which doubtless belonged to the building erected after 1105. The remarkable figure sculptures of these capitals can be paralleled in Normandy only at Rucqueville. It is probable that the existing towers are other remnants of the same building, although they must date from much later than 1105 — perhaps from about 1140. This church of King Henry cannot have stood for more than half a century, for a text of the year 1159 states: "The church of Bayeux was burned with fire. Bishop Philip labored manfully in its restoration."[3] Du Moulin again gives fuller details. "1159. — The first day of the year a great earthquake shook all the Cotentin, and was followed by the fire of the cathedral of Bayeux, which good Bishop Philip rebuilt at great expense."[4] Two passages in "Gallia Christiana" confirm these texts. The first, speaking of Philip, bishop from 1142–64, reads as follows: "Philip is said in the black chartulary of the chapter to have restored his cathedral burnt by fire in 1159."[5] The second passage, referring to the year 1183, states: "he [Henry II] agreed with the canons that the revenues from the prebends of those canons who had died up to that year, should be appropriated for rebuilding the church."[6] It is therefore evident that the cathedral was restored — it is noticeable all the texts say "restored," not "rebuilt" — after 1159; and that in 1183 works were still unfinished. Furthermore, there is a well-authenticated tradition, that the consecration took place only in 1231. On the basis of these facts there is some difficulty in determining the dates of the various portions of the existing edifice. The first impulse is to call the nave arcades part of the church anterior to 1151, and to see in the clearstory, transepts, and choir the restoration of 1159–1231. But a casual inspection suffices to show that the Gothic portions of the building are in the style, not of the XII, but of the XIII, century; and the Norman arcades of the nave with their rich mouldings, their many-shafted piers, their elaborate ornaments and diaperings, belong much rather to the second than the

[1] 1106. Eodem anno Henricus rex, vere in Neustriam nauigauit Baiocesin̄aque obsedit. Protinus igitur rex urb̄e expugnavit, et, iniecto igne penitus, c̄obussit. — *Ibid.*, lib. XI, p. 818.

[2] Neantmoins le Roy assiege Bayeux; elle fut emportée dès le premier assaut et bruslée avec le Temple (que le Roy fit refaire par après). — Du Moulin, *Histoire Générale de Normandie*, ed. 1631, p. 285.

[3] 1159. Ecclesia Baiocensis igne combusta. Philippus episcopus in eius restauratione iterum viriliter laboravit. — *Chron. Normanniae*, p. 997. See also *Chron.* Sigiberti, p. 130.

[4] Anno 1159. Le premier jour de l'an un grand tremble-terre esbranla tout le Costentin et fut suive de l'incendie de l'église cathédrale de Bayeux, laquelle le bon Euesque Philippus fit rebâtir à grands frais. — Du Moulin, *Hist. Gén. de Normandie*, p. 377.

[5] Phillipus 1142–64. Cathedralem suam incendio concrematam restaurasse legitur Philippus, in chartulario nigro Capituli Baiocensis ad annum 1159 inquunt. — *Gall. Chris.* Vol. XI, col. 365.

[6] Henricus II, 1183. Statuit cum canonicis, reditus praebendarum canonicorum decedentium usque ad annum, ad reficiendam ecclesiam deputandos. . . . *Ibid.* col. 366.

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first half of the XII century. We must, therefore, conclude that the work of reconstruction of 1159 began with the building anew of these arcades. When they had been completed, works must have been interrupted for a period of unknown length. When building was at last resumed early in the XIII century, the cathedral was completed in the Gothic style. Towards the end of the XIII century, in consequence of the introduction of heavy bells, the western towers threatened ruin, and their lower parts were reinforced with buttresses and extra masonry. About the same time the existing spires were added, and the present portals built before the façade. The central lantern was finished only in 1425–27. — The arcades of the nave form the richest as well as the most important example of late Norman architecture extant. Of equal interest are the Gothic portions of the monument with their multiple mouldings, their almost over-rich decoration, their turrets, and their double walls. In the nave the triforium is reduced to a balustrade running along below the clearstory windows; in the earlier choir, however, there is a high triforium gallery. The ambulatory vaults have broken ribs; the chevet chapels are vaulted as at Amiens, except that two extra ribs extend from the transverse arch to the main keystone. The chevet is semicircular, not polygonal, in plan; the supports consist of columns coupled in the longitudinal sense. The transepts are without side aisles, and the ambulatory is single. The system in the rectangular portion of the choir is logical and continuous, except that the wall rib rests upon the triforium string-course. (De la Balle; Ruprich-Robert, 100; Inkersley.)

St. Loup. The tower, placed to the south between the nave and the choir, is the most interesting part of this church, and indeed a veritable masterpiece of design. Ruprich-Robert assigns this portion of the edifice to c. 1180; the spire was added in the first years of the XIII century, and combines with the tower to form a composition remarkable for richness of ornament, beauty of proportion, and harmony of design. Of the church itself, the nave of the XII century has been much altered, while the rectangular choir is Gothic. (Ruprich-Robert, CXXXIX; De la Balle.)

JUMIÈGES, Seine-Inférieure. *Abbaye.* (Ill. 121, 122, 123, 124.) William Long-Sword, son of Rollo, raised this monastery from its ruins in 930. The buildings erected at this time were probably crude; at all events a reconstruction was in progress a century later, as is evident from the following passage in Mabillon: "William, Abbot of Jumièges, being dead, in his place was elected Robert, second of that name, who built the new church of St. Mary from its foundations. . . . Therefore Robert returned into France, that is to the Abbey of Jumièges, where in the year 1040 he laid the foundations of the new church of St. Mary."[1] Ruprich-Robert[2] states, as ever without quoting his authority, that Robert II continued to direct the works until 1043, when he was called to England by Edward the Confessor; that his successor Godfrey continued the construction, but died May 14, 1048 before finishing

[1] 1040. Mortuo Willelmo Gemeticensi abbate, in locum ejus subrogatus est Rotbertus, eo nomine secundus, qui novam Sanctae Mariae basilicam a fundamentis extruxit. . . . Quam ob rem Rotbertus in Galliam, id est ad Gemeticense monasterium, reversus est, ubi novae Sanctae Mariae ecclesiae anno MXL fundamenta jecit. — *Annales Ordinis S. Benedicti*, lib. LVII, vol. IV, p. 418. See also *Neustria Pia*, p. 386.

[2] *Arch. Norm.*, p. 78.

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the abbey which still remained "without windows or nave" (*sans vitraux ni nef*). At all events the consecration took place in 1067: "Thence a little later he [the abbot] returned to Normandy, and ordered the church of St. Mary in Jumièges to be consecrated with great pomp. This dedication was celebrated with great spiritual joy on the first day of July in the year of the incarnation of our Lord 1067 by Maurille archbishop of Rouen, and Baldwin bishop of Evreux.[1] If Ruprich-Robert may be relied upon, therefore, the portions of the Norman church which have come down to us date from 1048–67. The subsequent history of the abbey is of less interest. The nave and the transepts were reconstructed in the rayonnant period, and at the same time the nave vaulted; the little church of St. Pierre was remodeled in 1330–33.[2] Notwithstanding its present ruined condition the nave, which is all that remains of the XI century church, is of the greatest interest, both as one of the earliest extant examples of Norman architecture, and as one of the most imposing ruins that the Middle Ages have left us. The system is alternate, with a continuous shaft, although the original roof was in timber. The main arcades are in two orders. The triforium gallery opens on the nave by arcades consisting of three grouped arches. Like the side aisles the triforium is covered with groin vaults reinforced by transverse ribs. The façade, flanked by two majestic towers, is preceded by a narthex thoroughly Cluniac in style. There is remarkably little ornament; the aisle walls, however, are decorated externally with arched billet mouldings, and the towers with blind arcading and shafted windows.

MT.-ST.-MICHEL, Manche. *Abbaye.* "In the year 1022 the new church of St. Michael in Mt. Tombe was begun by Richard II, duke of the Normans and by Hildebert II, abbot of the monastery. The latter died this same year."[3] Owing to the great works of substruction which the difficulties of the site necessitated, the building progressed slowly. "Raoul of Beaumont became abbot of St. Michel in 1048. The substructions of the church which Duke Richard II had commenced, he continued and completed. He died in 1058. . . . Ranulph I [1058–84] began to construct the nave of the church which Richard had commenced. He erected the northern arcade with its arches."[4] According to M. Gout,[5] who quotes Dom Huynes without explicit reference, the four piers of the crossing were built in 1058. At all events it seems clear that the works of the first half of the XI century were con-

[1] 1067. Dehinc vero paulo post in Normanniam regressus ecclesiam Sanctae Mariae in Gemmetico cum honore magno dedicare jussit. Quam dedicationem hi episcopi cum spirituali jucunditate MLXVII Dominicae incarnationis anno Kal. Julij compleuerunt: Maurilius scilicet archiepiscopus Rotomagensis, et Balduinus Ebroicensis. — *Guil. Gemmet.*, lib. VII, p. 288. See also Order. Vital., lib. IV, p. 507, cit. Inkersley.

[2] *Gall. Chris.*, Vol. XI, col. 197.

[3] Anno 1022. Inchoata est hoc anno nova Basilica beati Michaelis in Monte Tumba a Richardo secundo comite Nortmannorum et Hildeberto secundo abbate; qui abbas obiit eodem anno. — *Annal. Bened.*, lib. LV, Vol. IV, p. 285.

[4] Radulfus I de Beaumont fit abbas S. Michaëlis anno MXLVIII. Ecclesiae fundamenta quae posuerat dux Richardus II continuavit absolvitque. Occubuit 1058. . . . Ranulfus I imprimis sollicitus fuit navim ecclesiae quam dux Richardus inchoaverat absolvere. Extruxit etiam porticus arcis a septentrione. — *Gall. Chris.*, Vol. XI, col. 515.

[5] *L'Hist. et Arch. Franc. au Mt.-St.-Michel*, p. 35.

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fined to the now-lost choir, and that no fragments of the existing edifice (unless possibly some of the substructions) can be earlier than 1058. Ruprich-Robert, quoting no authority, states that "Roger, abbot of Mt.-St.-Michel, rebuilt a great part of the nave in 1085, others say in 1094" (*d'autres disent en* 1094), and that in 1103 the nave fell and was repaired. At all events it is certain that the abbey was much damaged shortly after this date, for it is recorded: "In the year of our Lord 1112, the church of St. Michael-in-Peril-of-the-Sea was struck by lightning and burned, together with the dependent buildings."[1] There is extant also a text referring to the repairs executed after this disaster: "1123. In the abbey of St. Michael of the Mountain, Roger the abbot died. Of him, in the manuscript chronicle of St. Michael's, I read as follows: 'he made many improvements in the buildings and the ornaments, and he repaired all those portions which had been burnt. Above the arcade of the cloister he rebuilt in stone what before had been of wood, and underneath the same he constructed a stone hall and chambers, and on the third level a stable for the horses, and he arranged arches above in wonderful fashion."[2] No mention is made in this passage of repairs carried on in the church itself, which seems to have remained in a state of semi-ruin until the abbot Bernard (1131–49) undertook its restoration. "He restored the buildings and secured the patched roofs, and was the first to rebuild that portion of the north side of the nave of the church, which had been destroyed thirty-three years before."[3] Such is the documentary evidence for the building dates of the Norman church at Mt.-St.-Michel. It is clear that the nave of the existing edifice is essentially a work of the last half of the XI century and though modified by repeated restorations, this portion of the monument still preserves for the most part its original characteristics. The plaster vaults, of course, are modern; the nave, like the transepts, was originally covered with wood. The system is uniform; the piers are square with a colonnette engaged on each face; the archivolts in two orders are unmoulded. Groin vaults with transverse ribs cover the aisles. The triforium gallery, however, is roofed in timber, and opens upon the nave by means of two groups of two coupled arches pierced in each bay. The clearstory windows are shafted. Eastern absidioles open off the transepts. In 1421 the old Norman choir collapsed, and in 1450 the construction of the present chevet[4] — one of the finest examples of the flamboyant style — was begun. This chevet, which is supplied with an ambulatory and radiating chapels, shows all the charac-

[1] Anno Domini 1112 ecclesia sancti Michaelis de periculo maris fulgurata diuinitus arsit cum edificiis appendentibus sibi. — *Chronicon* Sigiberti, p. 134. Cf. also Besly, *Hist. des Comtes du Poitou, ex Chronico Malleac.*, p. 448, (*lege* 548).

[2] In monasterio S. Michaëlis de Monte, Rogerius abbas mortuus est. De eo in manuscripto Chronico S. Michaëlis haec lego: Iste fecit multa bona in aedificiis et ornamentis omnes officinas quae combustae fuerant reparavit. Insuper arcam claustri quae primus erat lignea lapidem fecit, et subtus ipsam, aulam et cameras lapideas, et in tertio ordine stabula equorum, fornicibus super fornices libratis mirabiliter adaptavit. — *Annal. Benedic.*, lib. LXXIV, Vol. VI, p. 101.

[3] Bernardus 1131–49. Aedificia restituit et sarta tecta tuitus est, imprimisque navis ecclesiae latus septentrionale, quod ante anno trigenta tres corruerat, refecit. — *Gall. Chris.*, Vol. XI, col. 517.

[4] Gout, *L'Hist. et Ar. au Mt. St. M.*, p. 139.

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teristics of the style of the XV century: the triforium is glazed; capitals are omitted; the system rises from the triforium string-course. The double flying buttresses and pinnacles of the exterior are hardly to be equaled for delicacy and charm, while the windows are filled with the most exquisite flamboyant tracery. The cloisters and conventual buildings of Mt.-St.-Michel, dating principally from the Gothic period, are among the most interesting architectural remains in Europe.

Église. This Norman monument has been much altered in the XV century. There is a single side aisle, and the choir is raised over an archway, beneath which passes the street.

BOCHERVILLE, (Boscherville), Seine-Inférieure. *St. George* (Ill. 127, 135). A charter preserved by Mabillon is generally believed to refer to this monument. This charter is undated, but since William is referred to as "duke" and not as "king" it is thought to be earlier than 1066. The passage taken as referring to St. George de Bocherville reads as follows: "Radulph, my (*i.e.*, William's) officer . . . commenced to rebuild from its foundations the church of the said martyr George, and at his own expense finished the same in the form of a cross."[1] Unfortunately it is not certain that Mabillon is correct in identifying the church of St. George mentioned in the charter with the monastery of St. George de Bocherville. Archæologists are agreed that the architectural forms of the existing monument must be later than 1066, and usually maintain that the church was reconstructed in the XII century; however, M. Besnard, whose arguments seem to me to be most convincing assigns the construction to some time between 1075 and 1090 — a date not entirely irreconcilable with the charter if we grant that William might be styled duke in Normandy after he had become king in England. The charter might then be as late as 1083, the year of the death of Matilda. Since, as M. Besnard has pointed out, the church shows every indication of having been built rapidly in the course of six or seven years, it seems not unreasonable to suppose that it may have been finished by 1083. — The existing edifice consists of three aisles. The vaults of the nave were added in the second quarter of the XIII century, and it is remarkable that the walls are of sufficient thickness to resist the thrusts without the aid of flying buttresses. The aisles are groin-vaulted with transverse arches. As in St. Nicolas and the Abbaye-aux-Dames of Caen, the system is uniform, and the square piers are supplied with four engaged colonnettes. The archivolts are moulded, but these mouldings

[1] This passage more at length is as follows: Qui superioribus litteris inter proceres subscripsit Radulfus Willelmi camerarius, iden ejus magister dicitur in diplomate quo Willelmus necdum rex, conditam a Radulfo Sancti Georgi de Baucherivilla ecclesiam cum rebus suis confirmat, sitam in pago Rotomagensi ad Sequanum; sic enim Willelmus in illo diplomate loquitur: — "Radulfus meus magister aulaeque et camerae meae princeps, instinctu divino tactus, ecclesiam supra dicti martyris Georgii, quae erat parva, reaedificare a fundamentis inchoavit, et ex proprio in modum crucis consummavit, officinasque ibidem Christo famulantibus necessarias fabricari fecit, qui, ut se ipsum templum sanctum Domino consecraret, eamdem ecclesiam dedicari fecit, et haec in dedicatione, uxore, ejus et filiis ejus Radulfo et Rabello coram adstantibus, ad stipendium ecclesiae atque canonicorum habenda assignavit, scilicet in villa, quae dicitur Abetot, ecclesiam cum tota decima, etc. . . . " Caret notis chronicis hoc diploma, cui apposita sunt signa Willelmi ducis Normanorum, Mathildis uxoris ejus, Radulfi camerari, etc. — *Annal. Benedic.*, lib. LXII, Vol. IV, p. 675, cit. Inkersley.

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are possibly later additions. There is no triforium gallery, a continuous arcade — similar to that of the Abbaye-aux-Dames — occupying the space between the clearstory and the main arches. The gable of the façade is flanked by two turrets crowned by little Gothic spires. The exterior of the nave is characterized in general by shafted windows and buttresses. The transepts have groin-vaulted tribunes and absidioles. Groin vaults on an oblong plan with transverse ribs also cover the choir which ends in a semicircular apse, and is flanked by groin-vaulted aisles ending in niches. (Ruprich-Robert XCIII–XCIV; De la Balle; Besnard; Cloquet.)

Monuments of the Second Class

OUISTREHAM, (Oystreham), Calvados. *Église* (Ill. 139) is of exceptional interest for the sexpartite rib vaults of the nave, which have been restored to their original form. The nave itself, which may be assigned to c. 1160 on the ground of its very rich and beautiful ornament and elaborate mouldings, is three double bays long. The aisle vaults, curiously enough, are erected on plans oblong in the longitudinal sense. Thoroughly logical is the system of alternately three and five shafts. The clearstory consists of three lancets of which the central one is highly stilted. The beautiful façade is rich in ornament, and displays a charming lack of symmetry. The choir of the XIII century is without side aisles, and consists of two bays (one of which is square and the other oblong), terminating in a semicircular apse whose vaulting ribs converge on the transverse arch. (Ruprich-Robert LVI, LXXIX, CIX.)

CREULLY, Calvados. *St. Martin* dates in the main from about the middle of the XII century, although the choir was altered in the XIII century, and the tower is a work of the Renaissance. The nave is entirely covered with sexpartite rib vaults except for the western bay, whose vault is quadripartite. The aisle vaults, oblong longitudinally, show a strange combination of groin and barrel vaults.[1] Since there are no wall ribs, the system consists of alternately three and one shafts. The decoration, especially on the outer order of the archivolts, is extraordinarily rich. There is no triforium; the clearstory windows are small, and externally form part of an arcade. The buttresses are in two orders. The choir ends in a square east wall; a side aisle was added to the north in the XV century. (De la Balle; Ruprich-Robert; De Caumont.)

BERNAY, Eure. *Abbaye.* "When in the year of the incarnation of our Lord 996, Richard the elder died, his son Richard succeeded him, and held the dukedom of the Normans for thirty years. And his wife Judith founded the monastery of Bernay in honor of Mary, the Blessed Mother of God."[2] Ruprich-Robert,[3] states that it was between 1013 and 1019 that this foundation took place, and that the church

[1] So Ruprich-Robert, *Arch. Norm.* pl. LXXXVIII, although the plan published by De Caumont, *Statistique Mon. du Calvados*, p. 379, shows square ribbed vaults.

[2] Deinde anno incar. D. DCCCCXCVI defuncto Ricardo seniore, Ricardus filius ejus successit et ducatum Normanniae triginta annis tenuit. Judith uxor ejus coenobium apud Bernaicum in honore, sanctae Dei genitricis Mariae condidit. — Orderici Vitalis, *Ecclesiasticae Historiae*, lib. III, p. 459. See also *Gall. Chris.*, Vol. XI, col. 830, cit. Inkersley.

[3] Citing as authority Robert Cornalis without explicit reference.

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was finished about 1050 by William the Conqueror. The nave of the existing edifice, notwithstanding various later alterations — the two extra orders of the archivolts are evidently an addition, and the groin vaults of the aisles were not part of the original building — is consequently an authentically dated monument of the first half of the XI century, and, as such, of extraordinary interest. The triforium consists of a series of coupled arches, interrupted on the axes of the piers by larger blind arches. There is no system; what little advance there is over such Carolingian monuments as Montier-en-Der or the Basse Oeuvre of Beauvais being purely decorative. The present transepts, central tower, and choir are evidently works of the last half of the XI century or even later.

FALAISE, Calvados. *St. Gervais.* According to Benoist[1] a consecration of this church took place in 1134. The nave, however, is evidently of the third quarter of the XI century, although it has been assigned to such early dates as 1040 by Ruprich-Robert and to 1050 by Mr. Moore. In its present form the church consists of three aisles, a complete set of side chapels, transepts, and a choir with ambulatory. The southern arcades of the nave are Romanesque, but the north side has been rebuilt in the XIII century, and at the same time the existing vaults were constructed. The system of the Norman portions is uniform; the archivolts and buttresses are in two orders; there are no mouldings; the clearstory windows are shafted; and there is no triforium. The choir of the XVI century, which has suffered much from restoration, is roofed in timber. With the exception of the XV century chapel which has replaced the west portal, the façade is of the XI century. The tower and the clearstory walls, on the other hand, show all the characteristics of the late Norman style. (De la Balle; Ruprich-Robert; Benoist; Moore.)

Église de Guilray. This monument consists of three aisles, transepts, a choir two bays long flanked by two side aisles, and three semicircular apses. The whole is now covered with a modern plaster barrel vault. This church is said to have been begun about 1076, and the existing south absidiole may well date from the end of the XI century. The principal apse is of the early XII century; the choir and the transepts were totally rebuilt in 1771; and the nave, which clearly shows influence from the Ile de France in its pointed arches and other transitional features, belongs to the last years of the XII century. The system of this nave is uniform; the piers are square with four engaged colonnettes. A porch of the XIII century precedes the façade, but the tower and flying buttresses are of the early flamboyant period. (De la Balle; Ruprich-Robert; Benoist III, 78.)

St. Laurent. This church, which has been much modernized, seems to have been originally rectangular in plan. The most ancient part of the present edifice, the nave, is said to be of the XI century.

St. Pierre. The portal of the XII century, though in only two orders, contains mouldings of unusual delicacy and refinement, and is ornamented with billets and an elementary dog-tooth. There is only a single shaft and no lintel. (Ruprich-Robert.)

Chapelle St. Nicolas du Château is a structure of the XII century with small moulded windows. (De la Balle.)

[1] *La Normandie Illustrée*, Vol. III, p. 78.

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LESSAY, Manche. *Abbaye* is said to have been finished about 1130, and consecrated in 1178. The aisle walls of the existing structure appear to belong to the XI century, but the remainder of the church is in the late Norman style. The edifice consists of three aisles, a central tower, transepts (originally with eastern absidioles), and a choir two bays long which terminates in a semicircular apse and which is flanked by side aisles ending in niches. Quadripartite Gothic vaults with a full set of ribs cover the nave; the aisles are surmounted by groin vaults with transverse ribs. The uniform system is peculiar in that the transverse shaft is replaced by a shallow pilaster strip. The triforium gallery, which is vaulted with slightly domed groin vaults, opens upon the nave by means of two shafted arches pierced in each bay. Mouldings of simple character adorn certain of the archivolts which are in two orders. Externally the clearstory windows are in two orders, shafted, and moulded; the buttresses are shallow, and there are no flying buttresses. This church preserves some fine glass of the XII century. (De la Balle; Ruprich-Robert.)

ST. GABRIEL, Calvados. *Prieuré.* Only the choir of this very interesting monument remains, the central tower, the transepts with their eastern absidioles, the nave (which was at least six bays long), and the side aisles all having been destroyed. This choir, which consists of two bays covered by a single sexpartite rib vault, terminates in a semicircular apse, and is flanked by two aisles ending in niches. Groin vaults with transverse ribs cover these side aisles. St. Gabriel, which is justly considered the finest extant example of Norman art at its very apogee, evidently dates from c. 1150, the moment of the fullest development of the style. Many evident analogies with the Abbaye-aux-Dames of Caen give reason to suppose that the priory was directly modeled upon this abbey. The ornament throughout, although rich and exuberant, is always well proportioned and in good taste. Across the triforium are thrown concealed flying buttresses. The triforium and main arcade are carried around the apse as blind arcades, an arrangement which gives almost the effect of an ambulatory. Corbels support the diagonal ribs of the vault. The archivolts are very richly ornamented with frets, etc. The exterior is characterized by the elaborate shafting of the apse, and by the clearstory arcade, in which windows are pierced. (Ruprich-Robert, LXXX–LXXXIII.)

Église contains some fragments of Norman architecture. (Benoist.)

BERNIÈRES-SUR-MER, Calvados. *Notre Dame.* This church is of interest and importance because of its sexpartite vaults. The edifice is assigned by Ruprich-Robert to c. 1150; the late profiles of the eastern bays of the nave indicate a date at least as late as this, and the western bays which are evidently later than the eastern bays, must be assigned to the close of the XII century. The church consists of three aisles without transepts terminating in a choir of the XV century. A logical system and archivolts with rich frets on their second order characterize the interior of the nave. Externally, the clearstory windows form part of an arcade, and the buttresses are but slightly developed. The XIII century tower and spire, placed to the west of the church over a sort of narthex, are veritable masterpieces of Gothic design, and form one of the most famous *clochers* of all Normandy.

PETIT-QUEVILLY, Seine-Inférieure. *Église* is at present covered by a wooden

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barrel vault, which replaces, however, the original sexpartite rib vaults, whose dispositions may still be traced. The church is said to have been founded in 1183 by Henry II; but Ruprich-Robert is clearly correct in holding that the style of the architecture indicates a date of c. 1155. The monument consists of a single aisle terminating in a semicircular apse. There were two complete bays of sexpartite vaulting and a half bay at the western end, including only half a sexpartite vault. The system was logical but somewhat amplified. The half-dome of the apse was supplied with three ribs, to which, however, its surface was only slightly warped. Small windows placed above an arcade are pierced in the thick walls. The profiles of the vaulting ribs are advanced in character. The church contains frescoes which are among the best extant examples of XII century mural painting. The façade has been much modernized. (De la Balle; Ruprich-Robert.)

CERISY-LA-FORÊT, Manche. *Église*, which is interesting as almost the only Norman church supplied with transverse arches [1] that has come down to us, is assigned by Ruprich-Robert to c. 1150, though I should place it about twenty years earlier. The plan includes three aisles, transepts with tribunes and eastern absidioles, and a choir two bays long which ends in a semicircular apse and which is flanked by side aisles. Although the transverse arches spanning the nave were attached to only every other pier, the system of the nave is uniform. Flying buttresses concealed beneath the triforium roof were projected and in part executed. Groin vaults with transverse ribs cover the side aisles; the piers are rectangular with four engaged colonnettes. The clearstory windows are flanked on either side by blind arches, thus forming a continuous arcade. The apse is lighted by three stories of windows, between which there is a passage concealed in the thickness of the wall. When in the XIII century the choir was vaulted, the existing buttresses, turrets, tracery, and pointed arches were added to the exterior. (Ruprich-Robert; De la Balle.)

Monuments of the Third Class

DOMFRONT, Orne. *Notre Dame-sur-l'Eau.* Ruprich-Robert believes that this monument is a homogeneous structure dating from c. 1050. This is certainly an error; the style of the choir indicates a date at least as late as c. 1100, while the nave, although somewhat earlier, must still have been erected during the last half of the XI century. This exquisite example of the pure Norman style was horribly mutilated in 1825, when the side aisles and the three western bays of the nave were destroyed. There remain three bays of the nave together with the transepts (furnished with eastern absidioles) and a choir of one bay, ending in a semicircular apse. The apses are covered with half-domes, and the choir is groin-vaulted; the remainder of the church was roofed in timber. The uniform system is peculiar in that shafts are attached to the inside, as well as to the outside, faces of the main piers. The apse is decorated with a double row of arcades, and the windows are shafted; the nave, on the other hand, is much less ornate: the archivolts in two orders are

[1] The only other example, I believe, is at Esquay (Calvados). *Vide infra*, p. 312.

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unmoulded, the clearstory windows are plain. The central tower is decorated with arcades. A sculpture upon a stone embedded in the wall of the north transept, above the main windows, represents a man in a singularly indecent posture. (De la Balle; Ruprich-Robert; Benoist IV, 27.)

ST.-PIERRE-SUR-DIVES, Calvados. *Abbaye Notre Dame* is said to have been founded as a nunnery c. 1012; Benedictine monks, however, were installed in 1046. In 1067 the more important buildings of the abbey had been completed and the church was consecrated by Maurille, archbishop of Rouen. The epitaph of Ainard († 1078), the first abbot, is preserved by Orderic Vitalis and contains a reference to this building: "Here lies Ainard, sweet smelling as the nard because of his many flowers of virtue and merit, by whom was founded and built this place. . . . "[1] In 1105 the abbot Robert beguiled Henry I to St.-Pierre-sur-Dives to deliver him over to his brother Robert Courte-Heuse. Perceiving the treason, the king caused the walls of the cloister to be broken down, and set fire to the monastery. The fire completely destroyed the church and its tower; there remained standing only blackened and tottering walls. By order of the king a new church was rebuilt on the ruins of the old. Haymo,[2] who became abbot about 1140, has recorded interesting details of the zeal of the people who aided in the reconstruction of the abbey. However, the church of Haymo can not have stood for long, for Eudes Rigaud, archbishop of Rouen, remarks that when he visited the abbey in 1255 the monks could not exactly observe the rule because of the workmen who filled the church and the monastery. Numerous reparations and additions were executed in the course of the XIV and XV centuries. In 1562 the abbey was pillaged by the Protestants. The only portions of the Norman structure which survive are the row of round arches near the north transept and the southern tower of the XII century. Of the rayonnant period are the northern tower and the façade. The lower parts of the nave, including the triforium, are of the XIII century, though remodeled by Jacques de Silly (1501–30), whose arms may be seen in several places. The choir and the ambulatory are also of the early Gothic period, but none of the high vaults are anterior to the XIV century. Of especial interest is the fine pavement of enameled bricks of the choir.

[1] The epitaph in toto is as follows:

Hic jacet Ainardus redolens ut pistica nardus,
Virtutum multis floribus et meritis,
A quo fundatus locus est hic aedificatus
Ingente studio, nec modico pretio.
Vir fuit hic magnus probitate suavus ut agnus,
Vita conspicuus, dogmate praecipuus.
Sobrius et castus, prudens semper et honestus,
Pollens consilio, clarus in officio,
Mentis huic gravitas inerat et maturior aetas
Canaque caesaries, et tenuis facies.
Quem nonas decimas Febrio promente Calendras
Abstulit ultima sors, et rapuit cita mors.
Pro quo qui transis, supplex orare memor sis
Ut sis ei saties, clara Dei facies. Amen.

[2] This important text is cited below, p. 151 seq., Vol. II.

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A well-preserved chapter house of the XIII century adjoins the church. Notwithstanding its vast dimensions, this abbey is of little artistic or archæological interest. (De la Balle; Benoist.)

VERNEUIL, Eure. *La Madeleine* is justly famous for its tower, one of the superlative masterworks of flamboyant design. This tower is said to have been built between 1506–30[1] — dates which correspond well with the style of the architecture. The nave together with the two side aisles and the south transept appears to date from the end of the XII century. The pointed arches of the main arcades are carried by monocylindrical piers. These piers are included two by two in larger semicircular arches in the center of each of which formerly opened a window. Against those columns which support this enclosing arch is engaged a shaft rising towards the roof, and it is probable that rib vaults were projected since one was actually executed in the south transept. The present vault is modern, and the choir is of the XV and XVI centuries. (De la Balle; Benoist.)

Notre Dame. The original construction of the XII century comprised a long nave, a central tower, and a choir of a single bay ending in an apse adorned with pointed arcading. The choir and the square bay beneath the tower were supplied with vaults similar to those which characterize the churches of Anjou. Ribs, composed of two tori, crossed beneath a high dome, whose joints were horizontal and concentric. The aisles which were continued to form an ambulatory were covered with groin vaults. In the XV century two chapels were added to the right and left of the choir; in the XVI century a transept was added between two bays of the nave. The vaults of this transept are supplied with rich pendants. (De la Balle.)

St. Nicolas. The nave of the XII century has been disfigured, but the XV century choir is well preserved. (De la Balle.)

St. Laurent is desecrated. The choir exists no longer, but the portal of the XV and XVI centuries is of some slight interest. (De la Balle.)

AIZIER, Eure. *Église* is of interest as one of the earliest extant examples of Norman architecture. The existing edifice consists of a single-aisled nave, a choir surmounted by a central tower, and an apse. The square archivolts rest on square piers. The south wall of the nave has preserved the masonry of the XI century. On this side there was originally a side aisle which has been destroyed. On the north side the old Norman aisle was evidently replaced in the XV century by a Gothic construction which, however, has also been demolished and the pointed arcades walled up. The apse and tower preserve their original character, and may be assigned to c. 1040. The stepped pyramidal roof which was added to the tower in the XII century is of great interest. (De la Balle.)

THAN, (Thaon), Calvados. *St. Samson.* The date of this beautiful little monument has been much discussed. Ruprich-Robert assigns the central tower to c. 1050; this, however, is certainly an error, for the entire monument except the choir, seems to be a homogeneous structure of c. 1135. The church had originally three aisles, but the side aisles have been demolished, and the arcades walled up. A shaft is engaged on the outer faces of the piers, which looks as if transverse arches

[1] Guilmeth, *Histoire de Verneuil*, 2nd edition, 1836. 8vo. p. 31.

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might have been thrown across the aisles. Timber roofs covered the entire building except that bay of the Gothic choir which is under the central tower; this bay is supplied with a rib vault. The nave has no system, but is richly ornamented internally and externally with arched corbel-tables, double chevrons, diapering, billets, frets, pilaster strips, and arcading. The tower is one of the finest of all Normandy; the design is characterized by grouped windows of several richly moulded orders with angle shafts, grotesques, etc. A stair turret is added in one corner. The whole terminated in a cornice consisting of an arched corbel-table, surmounted by a low pyramidal roof. (De la Balle; Ruprich-Robert LXVIII, LV.)

HAMBYE, (Hambie), Manche. *Abbaye* was founded about 1145. The nave, one of the most picturesque ruins of Normandy, was commenced soon after, but was finished only in the XIII century. It is thus an important example of Norman transitional architecture. This nave, which consisted of only a single aisle, was lighted by long lancet windows between which rose the five shafts of the vaulting system. The choir, which dates from the end of the XIII, or beginning of the XIV, century, is provided with an ambulatory. The supports of the chevet were monolithic, and the triforium is remarkable for its square openings. Earlier than the choir, and probably about contemporary with the nave, is the tower. (De la Balle; Benoist V, 54.)

AUDRIEN, Calvados. *Église.* The plan of this church forms a perfect Latin cross, the east end being square. The choir is of the XIII or early XIV century, but the transepts with their eastern absidioles are of the XII century. These absidioles are crowned by conical roofs, added, like those of St. Nicolas of Caen, in the Gothic period. The transepts are further remarkable for the rich portals pierced in the western walls, and for the cornice, consisting of a pointed arched corbel-table. The superb but unfinished central tower is of the XIV century, and the nave also dates from the same period. (Ruprich-Robert CXI; De la Balle; Benoist.)

SEQUEVILLE-EN-BESSIN, (Secqueville), Calvados. *St. Sulpice.* Robert Wace states that this church was burned by the troops of Henry I king of England, in 1105, while that monarch was besieging Bayeux. Robert Fitz Haimon, commander of the troops of Duke Robert, being pursued by the royal forces, was obliged to take refuge in the tower; but the soldiers of the king set the church on fire, and thus forced him to surrender.[1] Since the traces of this fire may still be seen in the nave and on the west face of the tower, it is probable that the church was merely repaired after 1105, but not entirely rebuilt, what remained of the XI century structure being entirely overlaid with rich ornament. The existing edifice consists of a nave four bays long flanked by side aisles, transepts, a lengthened and vaulted choir of a single aisle, and

[1] Robert s'embatit el mostier
Sur en laton très hal clochier
Mais il ni pont gaires atendre
Volsit u non l'estut descendre
Kar ci feu i fu aportez
Dunc li mostier fu alumez . . .
Robert fu pris é bien gardez
Et a Baienes fu menez, etc.

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three apses. There is no system. The main archivolts are in two unmoulded orders, but the clearstory windows are shafted, and the spandrels are covered with rich diapering. Externally the bays are marked by buttresses, and the ornament consists of arched and flat corbel-tables and blind arcades — the arcade of the clearstory being remarkable for its coupled shafts. The tower appears to have been rebuilt in its upper parts after 1105, since the decoration comprises arches in several orders and buttresses. This tower was crowned by a majestic spire in the XIII century, at the same time that the nave was vaulted. The present choir is a work of the XVII century. (Ruprich-Robert XX; De la Balle.)

STE.-MARIE-DU-MONT, Manche. *Église.* The enlargement of the primitive structure of the XI century was begun towards the end of that century, but was completed only in the XII century. At this time the side aisles were added, the existing arcades being pierced in the primitive walls of the nave. The archivolts of these arcades are in two orders, but there is no system. The choir and the transept which were added later in the XII century show the influence of the style of the Ile de France. The choir was vaulted in the XVI century, and at the same time the existing tower — a construction of the most decadent style — was erected. (De la Balle; Ruprich-Robert; Benoist V, 63.)

AUTHEUIL, Orne. *Église*, dating from about the middle of the XII century, has been much rebuilt in modern times. The plan includes a single aisle, transepts with eastern absidioles, a lengthened choir, and an apse. Choir and crossing are groin-vaulted; the rest of the church, however, is roofed in timber. The windows are shafted and in two orders; the apse is decorated with shafts and buttresses employed in a purely decorative manner. (Ruprich-Robert; De la Balle.)

ST. CÉNERI, Orne. *Église.* (Ill. 120.) This interesting little monument is of great importance for its frescoes — the best extant examples of Romanesque polychrome mural decoration, although they have unfortunately been somewhat restored. The church itself, which consists of a single aisle, transepts with eastern absidioles, a choir, and a semicircular apse, except for the half-domes over the apses, is entirely covered with wood. There is a central tower, which, being narrower than the nave, rests on piers falling within the latter, and there is thus left a little passage opening from the nave directly into the transepts. This disposition, common in the school of Berry, is rare in Normandy. (De la Balle; Ruprich-Robert.)

• *St. Léonard* contains some fragments of Norman architecture. (De la Balle.)

Chapelle Notre Dame de Pitié.

MORTAIN, Manche. *Abbaye Blanche* ("La Blanche," "Prieuré-Blanc-lez-Mortaing"). This abbey, one of the earliest structures of Normandy to show influence from the Ile de France, is a characteristic example of a Cistercian church. Consequently, since the abbey was affiliated with the Cistercians only in 1147, it is evident that the present structure must be a work of the second half of the XII century, and not, as has been claimed, the church erected 1120. It is known, in fact, that a consecration of this church was celebrated in 1206, and it is probable that the construction was in progress during the entire second half of the XII century. The plan includes a single nave, a vast transept to the east of which open square chapels, a

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square east end, and a bell tower of wood. The nave system was probably originally continuous, but the shafts have been cut off, and are now carried on corbels. The pointed and highly domed rib vault is erected on a square plan. Only one arcade now remains of the cloister which formerly adjoined the church; this, however, is of extraordinary interest as almost the only surviving example of a Norman cloister. (De la Balle.)

St. Évroult, erroneously said to have been built in 1082, is a curious monument, full of the local characteristics of the strange country in which it is placed. The church is supplied with side aisles, but there are no transepts. Round and pointed arches are both employed in the windows and doorways. The peculiar, yet withal effective tower is of the XV century.

MONTIVILLIERS, Seine-Inférieure. *Abbaye.* "1035. Montivilliers having come into his possession, Robert undertook soon after to found there a convent for women. And the first abbess was Beatrice, a friend of Duke Robert; the second was Elizabeth"[1] — "Elizabeth I succeeded Beatrice before the year 1066. She acquired much property at Lillebonne, and ceased to exercise her office before the year 1116 or 1117. She is believed to have built from the foundations the church of her monastery, which survives to this day."[2] Ruprich-Robert, however, refuses to accept this date, "except for the central tower and other portions of the edifice"; and, indeed, the style of the main body of the structure would seem to indicate the middle rather than the commencement of the XII century. The system is uniform with a single shaft; the clearstory widows are shafted; the archivolts are in two orders and moulded. The decoration throughout is extraordinarily rich. The south transept is remarkable for its quadripartite rib vaulting. In the XVI century a parallel nave with six lateral chapels was added to the north to serve as a parish church. It is probably to this nave that the historians refer, when they mention a dedication of the church of Montivilliers in 1513. A noble Norman tower rises at the northwest angle of the existing façade, and is crowned by a simple spire of the XIII century with angle turrets. The central tower is also fine. The principal western portal is a superb example of rich Norman ornament; it is surmounted by a Gothic rose window with fine rayonnant tracery. (Ruprich-Robert; De la Balle; Cotman; Benoist.)

GRAVILLE, Seine-Inférieure. *Ste. Honorine* (Ill. 145) is assigned to c. 1080 by Ruprich-Robert, but can hardly be earlier than c. 1100. Even so, the intersecting arcade of the north transept is the earliest extant instance of this feature, and as such is of great interest. The choir with its square east end and clearstory of oculi is a work of the XIII century; the Norman portions of the edifice include the transepts, the fine central tower, the nave, the side aisles, and the ruined tower adjoining the church to the northwest. The system of the nave is alternate, and the intermediate

[1] 1035. Recepto Monasterio Villari in suam potestatem, Rothbertus, monasterium puellarum ibidem mox instaurare coepit. Prima ejus loci abbatissa fuit Beatrix, Rotberti ducis amita; secunda Elizabeth. — *Annal. Benedic.*, lib. LVII, Vol. IV, p. 400. See also text cited *infra*, p. 303, under St. Taurin of Evreux.

[2] Elizabeth I Beatricem excepit ante annum 1066. Plurima acquisivit apud Elaebonnam seu Juliobonam, fatis functa ante annum 1116 seu 1117. Creditur basilicam monasterii sui, quae adhuc superest, a fundamentis excitasse. — *Gall. Chris.*, Vol. XI, col. 282, cit. Inkersley.

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supports have no shaft. Billet mouldings surmount the main archivolts, which are of two orders. The clearstory windows are small. Externally the buttresses are well developed, although there are no vaults; the cornice consists of a fine set of flat corbel-tables. (De la Balle; Ruprich-Robert.)

Other Monuments

LONLAI, (Lonlay), Orne. *Abbaye* consists of transepts dating perhaps from the end of the XI century, a Gothic choir of the XIII century flanked by side aisles, and a central tower without much character. The place of the nave, which seems never to have been constructed, is occupied by a little porch. The transepts are roofed in timber; the choir, however, is supplied with a lofty vault. The walls of the transepts are ornamented internally by an arcade with coupled shafts, of which the simple abaci are often not continued as string-courses. The supports of the choir are columns crowned by capitals with polygonal abaci, just above which the single shaft rests on a corbel. Although the clearstory is high, there are no flying buttresses. (De la Balle; Benoist V, 29; Ruprich-Robert.)

EVREUX, Eure. *St. Taurin.* "Richard II [duke of Normandy 996–1026] is said by Robert du Mont to have partially restored the monastery of St. Taurin at Evreux, which Richard his father had begun to rebuild."[1] — "Concerning the restoration of the nunnery at Montivilliers, built not far from the town of Harfleur, near the mouth of the Seine . . . there is extant a charter of the beginning of the year 1035. This place Richard II had given to the monks of Fécamp, but Robert wishing to change it into a priory, asked abbot John to take in exchange St. Taurin of Evreux."[2] From these texts it is evident that the abbey of St. Taurin was rebuilt in the first half of the XI century. However, the Norman fragments contained in the present edifice can not have belonged to this church, since the style is that of a much later epoch — c. 1140. In 1194 the church was burned: — "The king Philippe-Auguste, . . . as soon as he had sacked the city of Evreux, ruined it in blind rage, nor did he spare the church of St. Taurin very famous in those regions. For when he ordered this to be burned, and no one in all the great army was so untouched by fear of God as to be willing to execute this impious command, the king himself, it is said, with certain lost men of the kind who are called 'Ribaldi,' entered the holy edifice and set it on fire."[3] The church was reconstructed after this fire and of this reconstruction

[1] Richardo secundo tribuitur a Roberto de Monte restauratio ex parte monasterii sancti Taurini Ebroicensis, quod Richardus ejus pater reficere coeperat. — *Annal. Benedic.*, lib. LV, Vol. IV, p. 319, cit. Inkersley.

[2] Ineunte anno MXXXV . . . actum de instaurando puellari Monasterio-Villari, haud procul ab opido Harfleto, prope ostia Sequanae constructo. Hunc locum Richardus secundus Fiscannensibus monachis contulerat, et Robertus locum istum in priorem statum restituere volens, Johannem abbatum rogavit, ut ipsi eum concederet, dato in commutationem monasterio Sancti Taurini apud Ebroas. — *Ibid.*, lib. LVII, Vol. IV, p. 400.

[3] 1194. Porro rex . . . urbem Ebroicensem, quam prius spoliarat, pernici furore euertit, nec celeberrimae in illis regionibus ecclesiae beati Gaurini pepercit. Cum enim eamdem incendi iussisset, et nullus ex tanto exercitu divini timoris intuitus nefariae iussioris executor existeret, ipse (ut dicitur) cum quibusdam perditis ex illo hominum genere, quos Ribaldos vocant, ingressus sacris aedibus ignem immisit. — Guillelmi Neubrigensis, lib. V, p. 552, cit. Inkersley.

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remain, though much altered, fragments of architecture of great value for the study of the transition in Normandy. The nave as it stands to-day is a curious patchwork of different constructions: the north aisle together with certain fragments of the nave arcades, as we have seen, date from c. 1140; the upper parts of the nave and the square tower which dominates the transepts, belong to a reconstruction of 1047; the south aisle is of the XVI century and half Renaissance in character; the piers, which are surrounded each by twelve colonnettes, date from after the fire of 1195; the wall of the north transept and the lower portions of the south transept are Norman; and the choir is of the early XIII century, but has been much altered in the flamboyant period.

AUFFAY, Seine-Inférieure. *Prieuré.* This establishment, founded as a collegiate church, became in 1067 the seat of a priory, when the present transepts were erected. In 1264 Eudes Rigaud, archbishop of Rouen, found the nave in a ruinous condition, and caused it to be rebuilt in the form which it still retains. The present southern aisle of the choir seems to have been added slightly later, perhaps in the XIV century; but the central and northern aisles of the choir and the west façade belong to the XVI century. The nave vaults were destroyed in 1472, and the existing tower was built in 1735. Monocylindrical piers with octagonal abaci and a triforium gallery characterize the design of the nave. (De la Balle; Benoist.)

BENY-SUR-MER, Calvados. *Église* is a fine example of the style of the XII century. There is a single aisle; the choir is vaulted. The buttresses are salient, and the tower and spire show the influence of the style of the Ile de France. There seems to be documentary evidence that the church was rebuilt (doubtless in its original form) in the XVIII century. (De la Balle.)

PONT-AUDEMER, Eure. *St. Germain*, although much modernized, is a most important monument. Ruprich-Robert[1] does not hesitate to assign the nave to the first half of the XI century. This nave, originally six bays long, was reduced to half that length in 1817. Since there is no system, it is evident that the original roof of the nave as well as that of the side aisles was in timber. The transepts, central tower, and choir are somewhat later, and have been much altered in the Gothic period. The transepts originally had the usual eastern absidioles; only one of these now survives. Although the primitive apse has been replaced by a square east end of the XIV century, the choir retains its Norman groin vaults with transverse ribs. The exterior of the nave is characterized by arcades in two orders, flat pilaster strips, flat corbel-tables, billet mouldings, and capitals already assuming Norman characteristics. (Ruprich-Robert; De la Balle.)

Notre Dame-du-Pré is a curious example of Norman transitional architecture. (Benoist II, 58.)

FONTAINE-HENRY, Calvados. *Église.* It was determined in the XIX century to lengthen the choir of the original church (whose construction Ruprich-Robert assigns to c. 1170) by the addition of an extra bay. Accordingly the square east end was torn down and rebuilt stone for stone further to the east, and a new intermediate bay was erected between this and the remainder of the church. The present nave is also modern, and the tower uninteresting. The ancient choir which

[1] *Arch. Norm.* X.

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appears to have been a monument of extraordinary beauty, comprised a single aisle covered with quadripartite rib vaults, and was richly decorated with ornament of remarkable delicacy and refinement. Especially graceful are the two exterior arcades. (Ruprich-Robert; De la Balle.)

RUCQUEVILLE, Calvados. *Église.* The ornament of this ruined and neglected monument is strongly Burgundian in character and quite without parallel in Normandy, except for the capitals found imbedded in the great piers of the crossing of the cathedral of Bayeux. On this analogy the construction may be assigned to the early years of the XII century. The plan is in the form of a Latin cross with a nave of a single aisle and a square east end of the XIII century. The transept was the only portion of the edifice to be vaulted.

IFS, Calvados. *Église,* which is assigned by Ruprich-Robert to c. 1180,[1] is famous for its Gothic spire, in the purest style of the XIII century. This spire with its four angle turrets rises from a noble Norman tower, the style of whose upper story is distinctly transitional. The single-aisled nave is of little interest except for the southern portal, a charming example of late Norman design. The choir is an addition of the XIII century, but the windows were made over in the flamboyant period.

PONTORSON, Manche. *Notre Dame.* (Ill. 140.) This edifice, dating from the third quarter of the XII century,[2] is of interest especially for its façade, one of the most original and fanciful of Norman designs. The composition is dominated by a great pointed arch, two stories in height, opening upon a recessed porch. Two turrets flank the gable. The single-aisled nave and the transepts are at present covered with pointed quadripartite rib vaults[3] on a square plan. The square choir dates from the Gothic period. (Ruprich-Robert XCVII; De la Balle.)

BOURG-DUN, Seine-Inférieure. *Église.* The existing edifice consists of a nave flanked by two side aisles of unequal width, salient transepts, and a choir (with a southern side aisle) terminating in a square east end. In the XI century, the nave was roofed in timber and supplied with narrow side aisles; absidioles opened off the transepts, and the choir consisted of a single square compartment followed by an apse. At the end of the XII century a new nave and southern side aisle, both rib-vaulted, were erected, and the choir was also transformed, its length being increased by a bay and the apse being replaced by a square east end. Other alterations executed in the course of the XIV, XV, and XVI centuries include the turrets which flank the west gable, the rayonnant central tower, and the lancet windows of the clearstory. (De la Balle.)

BARNEVILLE, Manche. *St. Germain,* an example of the pure Norman style, is one of the most interesting parish churches in the département. The nave of the XI century is covered by a modern vault; the simple interior is decorated only with a cornice formed of a flat corbel-table. A square east end terminates the choir of

[1] *Arch. Norm.* CXVI.

[2] De la Balle states that in 1171 the château of Pontorson was destroyed by fire and that the church shared the same fate. The existing edifice, consequently, may well have been erected immediately after this fire.

[3] Ruprich-Robert, *Arch. Norm.* CVIII, gives a restored plan in which are shown groin vaults with transverse ribs.

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the XII century. The great tower which flanks the church rises over a sort of transeptal chapel. (De la Balle.)

AMBLIE, Calvados. *Église* is assigned to c. 1160 by Ruprich-Robert.[1] The nave and the choir are Norman, but the latter has been "restored" with the usual dire results, and the existing vaults are an addition of the XV century. The west façade dates from the early Gothic period, but the tower is of the late XVI century. (Ruprich-Robert.)

VAUDREUIL, Eure. *Notre Dame.* This curious little church must have existed as early as the X century, for it is recorded that in 1006 Richard II presented the parish to the abbey of Fécamp. No part of the existing edifice, however, can be earlier than the XI century. The church as it stands to-day consists of three aisles, a central tower, and a semicircular apse. The aisles have coupled windows and are groin-vaulted; the nave is covered by a modern barrel vault. In contrast to the plain rectangular sections of the archivolts, the quality of the masonry is fine. The system rests upon corbels placed just above the absolutely plain capitals, which crown the monocylindrical piers. It is evident that the system, the cornice, the present aisle windows, and the apse are the result of alterations carried out in the XII century, while the shell of the edifice is older. It is usually stated that the original church of the XI century included only a single aisle, and that the side aisles were added and the arcades pierced in the XII century. Proof of this is said to have been found in the foundations. To judge from photographs, however, — I have not had the opportunity of visiting this monument on the spot — the side aisles and nave must be homogeneous. The church bears traces of further alterations executed in the XV, XVII, and XVIII centuries.

BOISNEY, Eure. *Église*, which assigned to c. 1150 by Ruprich-Robert,[2] consists of three aisles, a square choir, and a central tower which is adjoined to the north and south by two little chapels too small to deserve the name of transept. Beneath the central tower is a rib vault with pointed arches; the rest of the church is roofed in wood. The exterior is notable chiefly for the façade of the XVI century, for the decoration in arched corbel-tables, and for certain pointed windows. (Ruprich-Robert; De la Balle.)

ST.-SAUVEUR-LE-VICOMTE, Manche. *Abbaye* consists of three aisles, transepts, a central tower, and a polygonal apse of the XIII century. The nave, although vaulted in the XV century and since much modernized, still retains its interesting Norman arcades. These arcades, which may be assigned to the early years of the XII century, are characterized by archivolts in two orders supported upon three shafts engaged on the piers. The system is uniform, and consists of a single shaft, evidently not intended to carry vaulting ribs. There is no gallery, but a continuous triforium arcade. The side aisles are groin-vaulted. (De la Balle; Benoist V, 60.)

LOUVIÈRES, Calvados. *Notre Dame.* The Norman nave and the rectangu-

[1] *Arch. Norm.* CXVI.

[2] *Arch. Norm.* LIV. The monument, however, must be later than this, and probably dates from c. 1170.

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lar vaulted choir of the XIII century are entirely eclipsed by the central tower with its superb spire of the early Gothic period.

ST. CONTEST, Calvados. *Église* (Ill. 136), assigned to c. 1150 by Ruprich-Robert,[1] is remarkable for its tower, whose pyramidal stone roof is broken by an elementary dormer window. Ruprich-Robert considers this rudimentary spire to be an addition of the XVI century.[2] The learned archæologist is here, however, certainly in error, and Mr. Moore[3] is doubtless correct in believing that the stone pyramid forms part of the original construction. This spire is consequently the earliest known example in which a dormer window is employed to break the transition from square basement to sloping upper member. The tower itself is of great beauty with its stair turret and rich ornament, which, while elaborate, is well composed. This church reverses the usual dispositions in that the rectangular choir is Norman, while the nave is an exceptionally fine example of the style of the XIII century. The choir vaults, however, were added in the Gothic period. (Ruprich-Robert; De la Balle.)

TAMERVILLE, Manche. *Église.* This church is assigned to c. 1100, and the tower to c. 1140 by Ruprich-Robert,[4] — erroneously, however, for tower and church seem to be homogeneous structures of c. 1130. The edifice is extremely simple, consisting of a single aisle, a central tower, and a square east end. Rib vaults, unfortunately much rebuilt, cover the choir. The triumphal arch, which is of horseshoe form, is supported by very peculiar capitals. The tower, ornamented externally with cylindrical buttresses, consists of two octagonal stories on a square base. (De la Balle; Benoist; Ruprich-Robert.)

CHEUX, Calvados. *Église.* (Ill. 142.) De Caumont assigns the apse and transept of this church to the first half of the XII century; the remainder of the monument belongs to the early Gothic period. The portal, which Ruprich-Robert dates c. 1160, is richly decorated with double chevrons, billet mouldings, and shafts. The church is very large and includes three aisles, transepts, and an apse flanked by two chapels. (Ruprich-Robert; Benoist III, 38.)

QUILLEBEUF, Eure. *Notre Dame-du-Bon-Port.* This well-known monument comprises constructions of various epochs. To the Norman period belong the nave, the west portal, and the tower, but the side aisles were rebuilt in 1786, and the choir with its ambulatory is of the late flamboyant style, transitional to the Renaissance. The west portal is remarkable in that its mouldings are continued to the ground without break, no imposts or shafts being inserted. An extremely picturesque composition is the low central tower with its rich ornament. The nave, six bays long, is characterized by archivolts in two orders, by square piers with two engaged colonnettes carrying the inner order of the arches, by many arches of horseshoe form, and by a timber roof. The clearstory has been suppressed in modern times.

RYES, Calvados. *Église.* There is a generally accepted tradition that this church was finished before 1047. The rich ornament of the nave and façade, however, is clearly of the XII century; and while the central tower is doubtless somewhat earlier, even this with its shafted orders and rich mouldings can hardly be anterior

[1] *Arch. Norm.* CXXXII.
[2] *Ibid.* CXXXVIII.
[3] *Goth. Arch.*, p. 183.
[4] *Arch. Norm.* CXIII.

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to the end of the XI century. The choir, which belongs to the early Gothic period, is ornamented with arcades. (Ruprich-Robert; De la Balle; Benoist.)

CINTHEAUX, Calvados. *St. Germain.* The date of this edifice is known from an extant charter of 1181, which records that in this year Robert Marmion donated the parish to the Abbey of Barbery. The church, which is very richly decorated, consists of a single aisle with a square east end. Certain of the corbel-tables are extremely obscene. (De la Balle.)

SAVIGNY, Manche. *Église* is a fine example of the late Norman style, doubly interesting because authentically dated. In the course of recent restorations, many fragments of old frescoes came to light, and among them a painted inscription. Although the letters of this were too much obscured to be legible, the date, 1128, was fortunately well preserved. The apse is decorated with an arcade whose archivolt, moulded and carved with double chevrons, is carried on coupled columns. The transverse ribs of the groin vault of the choir are flattened into quasi-ellipses, the vaults in consequence being highly domed. (De la Balle.)

COLLEVILLE-SUR-MER, Calvados. *Église.* The beautiful tower, six stories in height, is crowned by a pyramidal stone roof, broken by dormers, and is decorated with elaborate mouldings and shafted corners. Although this tower is remarkable in having no corner buttresses, Ruprich-Robert is certainly in error in assigning it to c. 1050, since such elaborate decorations could not have been executed before the XII century. As for the church itself, it is a work of the XIII century, with the exception of the southern portal — a fine example of the rich Norman decoration — and the choir vaults added in the rayonnant period. Originally the nave was flanked by a single side aisle, but this has been demolished.

ST. LÔ, Manche. *Ste. Croix.* (Ill. 143.) Of the edifice erected by Charlemagne in 805, nothing survives. The present structure consists of three aisles, a square east end, and a central tower. The nave, which dates from about the middle of the XII century, is characterized by archivolts in two orders ornamented with rich chevrons; by a system of a single shaft; and by vaults evidently added to the original construction. The side aisles are groin-vaulted. Flat buttresses and arched corbel-tables ornament the exterior walls, while the rich west portal is surmounted by sculptures of devils with chains, forming a most original and delightful composition. The spire is of the XIII century, and supplied with turrets and dormers. It is much to be regretted that this monument has been disfigured by modern alterations. (De la Balle; Benoist V, 26.)

BEAUMAIS, Calvados. *Église.* (Ill. 144.) The rich and beautiful doorway of the XII century, which is still preserved though not in its original position, is ornamented with finely cut mouldings, dog-tooths, rope mouldings, billets, rinceaux, grotesques, etc. In each jamb stands a single shaft. The exterior of the square choir is adorned with two rows of arcades superimposed, and a flat corbel-table on which are carved subjects, in several instances obscene. The square tower without spire is one of the finest in Normandy.

GENETS, Manche. *Notre Dame et St. Sébastien* is said to have been built by Robert of Thorigny, abbot of Mt.-St.-Michel. Of this church, consecrated in

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1157, there remains only the lower two-thirds of the tower, but this fragment is of interest, because the arches of the interior are pointed and carried on pillars surrounded by many engaged colonnettes. The vault, however, has no ribs. Somewhat earlier — perhaps of the XI century — are the present transepts. The nave, flanked by side aisles, is not vaulted; it is preceded by a great porch of the XV century. The choir, although constructed in the XIV century and rebuilt in the flamboyant period, preserves some fragments of the XIII century glass. (De la Balle; Benoist.)

DOUVRES, Calvados. *St. Remi.* The beautiful tower which flanks the church on the north, between the choir and the nave, rises over a chapel of the XII century. This chapel, however, opens on the nave by a pointed arch, which, like the upper story of the tower and the spire, must be of the early XIII century. The nave of the church is Norman; the north side aisle has been suppressed. The choir is of the XIV or XV century. (Ruprich-Robert CXLI; De la Balle.)

BIÉVILLE, Calvados. *Notre Dame.* This church of the first half of the XII century, consists of a single aisle with a square east end, the whole roofed in timber. Except for the southern wall, which is principally modern, the exterior is richly ornamented with arched corbel-tables and buttresses in two orders, while an arcade with double shafts is carried across the façade, and two oculi are pierced in the gable. The tower is in part Gothic. The choir is remarkable above all for the indecent sculptures of its corbel-tables.

FRESNE-CAMILLY, Calvados. *Église* consists of two unequal parallelograms (comprising respectively the nave and choir) separated by a transept and flanked by a southern tower. The nave — notwithstanding the pointed arches, a work of the XII century — is roofed in timber, but the choir, which was reconstructed in the XIII century, is vaulted. While the upper parts of the tower appear to be modern, the chapel which forms the base of this tower and the adjoining bay of the choir are the most ancient parts of the building, and may be as old as the XI century. (Ruprich-Robert CII; De la Balle.)

LA LUCERNE, (La Luzern), Manche. *Abbaye.* It is said that the foundations of this now-ruined abbey were laid in 1164 — a date which is not inconsistent with the style of certain portions of the existing remains. Especially the western portal with its rich Norman decoration, its segmental and pointed arches, and its chevrons merely chipped on the edge of the square member, must have been erected about this time. The extant ruins include remains of the three aisles, transepts, and central tower — the latter quite Gothic in style. The nave, which seems to have had no system nor triforium, was characterized by archivolts of a single order decorated with chipped chevrons and by moulded clearstory windows. (De la Balle; Benoist.)

ASNIÈRES, Calvados. *St. Vigor.* The oldest portion is the rectangular choir, but even this has been modified and vaulted in the XIII century — the epoch at which the tower and the transept were constructed. The former is surmounted by a fine spire. Of the late Norman style are the rich portals. (De la Balle; Benoist.)

ANISY, Calvados. *Église* is characterized by a single-aisled nave covered with wood, a square east end, and a gable belfry. The portions constructed in herring-

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bone masonry ought, according to accepted dogma, to be of the XI century; if so, the monument must have been much altered in the XII century, for the arched corbel-tables, shafted windows, and other ornaments betoken a decoration poor, it is true, but evidently late. (Ruprich-Robert; Cotman.)

MARTINVAST, Manche. *Notre Dame.* With the exception of the nave, the tower, and one of the transepts ruined by modern "restoration," this church may be assigned to the late XII century. The exterior is interesting for the apse ornamented with shafts replacing buttresses — a decoration which recalls the schools of Burgundy or Berry, — and for the well preserved western portal. Of the interior of the church the most conspicuous feature is the triumphal arch in two orders ornamented with a fret. The choir is covered with a square rib vault. Since several of the ribs are supported on corbels, this vault is doubtless a later addition to the original structure. (De la Balle; Benoist.)

LION-SUR-MER, Calvados. *Église.* The exquisite tower of the XII century is characterized by shafts, mouldings, sloping and salient buttresses, grouped openings of many orders, and a cornice formed of arched corbel-tables. The nave, built of herring-bone masonry, is assigned to c. 1070 by Ruprich-Robert; at some subsequent time — probably, however, before the erection of the tower — side aisles were added, but these were later destroyed. (Ruprich-Robert.)

VAUVRAY, Eure. *St. Étienne.* This church is said to have been burned in 1136, but in the rebuilding which followed this disaster, certain parts of the walls and the portal in three orders belonging to the primitive church were retained. The nave preserves a timber roof of the XIII century. (De la Balle.)

LÉRY, Eure. *St. Ouen.* The original building consisted of a square choir, transepts, a central tower, and a single-aisled nave. When the side aisles were added, arches were opened in the nave walls at regular intervals, and the spaces of wall left between were rounded into piers. These piers are in small masonry without bases and with the simplest sort of capitals. The nave, which has no system, is disfigured by a modern barrel vault, but the clearstory windows, long walled up, were reopened in 1845. The design of the façade is characterized by a central doorway with three round-headed windows above, by rich ornament, and by delicate mouldings. (De la Balle; Cotman XLVI; Benoist II, 35.)

HAM, Manche. *Église.* Although it is usually thought that the western portions of this monument are fragments of the church which is said to have been erected by Arefast about 1080, it is clear from the style that no parts of the existing edifice can be anterior to the XII century. The monument has been entirely rebuilt in the XIII century, but the plan (which includes a single aisle, transepts, a lateral tower, and a square east end) does not appear to have been radically modified, except that the nave, originally roofed in wood, has been recently vaulted. The western portal is adorned with triple chevrons and a drip moulding. (De la Balle; Benoist.)

CAMPIGNY, Calvados. *Église.* (Ill. 137.) The tower is assigned to the XI century by Ruprich-Robert,[1] although it certainly must be as late as the first third of the XII century, since it is ornamented with arcades, rich billet mouldings, and

[1] *Arch. Norm.* XXXI.

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roll mouldings. Elementary angle turrets soften the transition to the spire of the late XII or early XIII century. The square choir of the end of the XII century is flanked by a great chapel of the XIV century. (De la Balle; Ruprich-Robert.)

BOUVILLE, Seine-Inférieure. *Chapelle St. Julien.* This deserted church, a rare example of Norman art, is distinguished by the severe purity of its lines, the grace of its proportions, and the refinement of its interior decoration. (Benoist.)

NEUF-MARCHÉ, Seine-Inférieure. *Église*, which is assigned to the XI century by Ruprich-Robert, consists of a single aisle, transepts, a square choir flanked by two chapels, and a semicircular apse. The tower is supported by piers falling within the nave walls, a passage thus being managed from the nave directly into the transepts. Except for the aisle chapels, which are groin-vaulted, and the apse, which has a half-dome, the church is entirely roofed in wood. (Ruprich-Robert.)

PÉRIERS, Manche. *Église* retains a Norman doorway, although the monument is almost completely Gothic in style, having been built about the beginning of the XIV century. A century later a rebuilding on a much more ambitious scale was begun, but never entirely completed. The choir with its polygonal apse dates from the latter epoch; the three aisles, transepts, and central tower, from the former. The nave has no clearstory; and, curiously enough, the tower vaults are without ribs. (De la Balle; Benoist.)

RUGLES, Eure. *St. Germain.* To the very small and rustic nave of the XIII century was added, about the year 1500, the present glorious tower — a work quite worthy of a great cathedral. The style of this tower is characterized by intersecting mouldings, ogee and flattened arches. In the course of the XVI century, the edifice was still further altered by the addition of a new choir with side aisles. (De la Balle; Benoist.)

Notre Dame is an unimportant monument, now desecrated. (De la Balle.)

MANÉGLISE, Seine-Inférieure. *Église*, which is assigned to c. 1150 by Ruprich-Robert,[1] consists of a nave roofed in wood, two side aisles, a choir, and a square apse — the two last rib-vaulted. The nave system is carried on corbels placed slightly above the capitals of the main columns. In each bay of the clearstory is an arcade of three arches of which the central one contains a window. The principal portal is Gothic in style. (Ruprich-Robert.)

ROSEL, Calvados. *Église.* The simple and elegant tower, assigned by Ruprich-Robert to c. 1140,[2] is placed beside the church in such a manner that its lower story forms a chapel. In the upper story are the usual two arcades, reinforced by corner buttresses, while the whole is surmounted by a stone pyramid broken by dormer windows. The choir with its square east end is of the XII century; its vaults are most peculiar in that the diagonal ribs, instead of running from their capitals straight to the center of the vault, are decidedly curved in plan. The nave, roofed in wood, was enlarged in the XV century, but on one side only, so that its axis does not at present correspond with that of the choir. (De la Balle; Ruprich-Robert.)

BRESTOT, Eure. *Ste. Marie.* The two-storied tower, which dates from the last years of the XI century, notwithstanding the fact that it has lost much of its char-

[1] *Arch. Norm.* LXXI. [2] *Ibid.* CXXXVI.

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acter through modern restorations, is still of interest for the ornament consisting of arcades in two orders and of engaged shafts. The square choir is of the XII century, but was vaulted in the early Gothic period; its most interesting feature is a rich window with zig-zag shafts. A wooden roof covers the single-aisled nave, which has been much rebuilt in the XIII and later centuries. (De la Balle.)

PLESSIS-GRIMOULT, (near Aunay), Calvados. *Prieuré.* The church, said to have been consecrated in 1131 and to have been commenced thirty-three years before, is almost entirely destroyed with the exception of the southern tower. The plan, however, can still be made out. Adjoining the ruins are the remains of a circular chapter-house. (De la Balle; Benoist.)

St. Étienne. Although damaged by modern restorations, this church still retains much interest. The vaulted choir is two bays long, and is separated from the nave by a fine triumphal arch. In contrast to the rich lateral doorway is the severely simple and unmoulded western portal, which, however, is preceded by a porch. The north lateral tower probably dates from the XV century. (De la Balle; Benoist.)

ESQUAY, Calvados. *Notre Dame.* This church of the last third of the XI century consists of a single aisle, a single western tower, a square choir, and a semicircular apse. A transverse arch spans the nave. The exterior of the apse is characterized by shafted windows and blind arches, but the buttresses are of a primitive type. (Ruprich-Robert IX, 9.)

COLOMBIER-SUR-SEULLES, Calvados. *St. Vigor.* The fine tower, assigned by Ruprich-Robert to c. 1170,[1] is placed on the north flank of the church between the rectangular choir and the nave. The design is very typical and well composed; the mouldings and decoration are advanced in style. A lofty pyramid dating probably from the XIII century rises from the upper story. (Ruprich-Robert; De la Balle.)

AISY, (Aizy), Calvados. *Église.* The architecture of this monument is said to show influence from the Ile de France.

LITTRY, Calvados. *Église,* though much modernized, is said to be in large part of the XI century. The choir is vaulted. (Benoist.)

OCTEVILLE, Manche. *Église.* The only ancient portions are the choir, the apse, and the octagonal central tower. The latter may be assigned to the early years of the XII century except the curious upper story, evidently an addition of the early Gothic period. Like the bay underneath the tower, the choir is vaulted with rib vaults on an oblong plan, and two ribs are placed beneath the half-dome of the apse. Several of the carvings upon the exterior corbel-tables are obscene. (De la Balle.)

BRICQUEBEC, Manche. *Église.* The transepts, the central tower, the choir, and the polygonal apse date from the XIV or XV centuries; the Norman nave and side aisles, however, are assigned by Ruprich-Robert to c. 1130.[2] The system of the nave is uniform; the archivolts in two orders are richly decorated with frets and chevrons; the columns are massive and supplied with richly varied capitals. Clearstory and external buttresses are omitted.

[1] *Arch. Norm.* CXL. [2] *Arch. Norm.* LXX.

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ROTS, Calvados. *Église* consists of a rectangular choir, transepts, a central tower, and a single-aisled nave. The latter shows work of two epochs: the lower portions, richly decorated with a series of elegant arcades, must date from the last half of the XII century; the windows above and the wooden vault are modern. The much restored choir and transepts were vaulted in the XVI and XVII centuries. As for the central tower, the first story is of the XIII century; the second of the XIV; and the third of the XV. (Ruprich-Robert, De la Balle.)

Chapelle de l'Ortial.

LUC-SUR-MER, Calvados. *Église.* Of the ancient church destroyed in 1873–77 only the tower survives. The windows with pointed arches must date from the very end of the XII century, but the ramparts which so picturesquely crown the composition are additions of the XVI century. (Ruprich-Robert; De la Balle.)

MOUEN, Calvados. *St. Malo*, a wooden-roofed church of a single aisle, dates from the middle of the XII century, and the ornament of arched corbel-tables, arcades, etc., is very rich and charming. The façade is particularly interesting: the lower portions are adorned with chevrons, star mouldings, billets, rinceaux, and grotesques; the second story is formed of a very highly ornamented arcade which is continued across the sides of the monument. The tower, without, it must be confessed, any great claim to distinction, seems to be mainly contemporary. (Ruprich-Robert CIII; De la Balle.)

CHAMBOIS, Orne. *Église*, of the last half of the XII century, shows unmistakable signs of French influence. The edifice consists of a nave roofed in timber, a groin-vaulted choir with a square east end, and a tower crowned by a stone spire of the very last years of the XII century. Above the portal of the crude western façade may still be seen traces of the imposts of a wooden porch which once protected the doorway.

BASLY, Calvados. *Église*, remarkable for its tower, is assigned by Ruprich-Robert to c. 1140.[1] The design is simple and dignified, and were it not for the fine mouldings, the late date would hardly be suspected. The spire was added in the XIV century. (Ruprich-Robert.)

TOUR, (Tours), Calvados. *St. Pierre.* Two side aisles, which have been demolished, formerly accompanied the Norman nave. The main western portal is extremely rich and furnished with shafts of great slenderness. An admirable spire with turrets and dormers crowns the central tower, which is said to date from the last years of the XII century. The Norman transepts, notwithstanding the later vaults, have in the main preserved their original characteristics, while the rectangular choir of the late XIV century is very elegant in design. (De la Balle; Benoist III, 105.)

AUBERVOYE, Eure. *Église* consists of three aisles, a central tower, a choir, and a polygonal apse. The choir and the lower portions of the tower are of the XII century, but the upper part of the tower fell in 1806, and has been rebuilt on a different design. The nave of the XIII century is characterized by monocylindrical piers. (De la Balle.)

[1] *Arch. Norm.* CXXXVI.

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Grotte de Bethléem is a strange grotto intended as a reproduction of the Temple of the Nativity in Bethlehem. (De la Balle.)

BROGLIE, Eure. *St. Martin* consists of a nave, a southern side aisle, and a choir with ambulatory. There was originally a central tower. The archivolts of the main arcade are in two orders, and rest upon severely plain rectangular piers; the south side of the nave seems to have been altered in the XV century, when the present vaults were constructed. Externally, the large clearstory windows are moulded; the façade is a patchwork of the styles of the XI, XII, and XVI centuries. According to De la Balle (whose description of this church is wretchedly inadequate) the ambulatory is part of the original plan of the XI century. Since, however, an ambulatory of the XII century would be without precedent in Normandy, it is probable that this is an error. (De la Balle.)

ROUEN, Seine-Inférieure. *St. Paul.* Of the church of the XI century, only the choir with its three apses survives, and even these fragments have been much altered, for the present rib vaults and salient buttresses are obviously not part of the original construction. (Ruprich-Robert.)

AUGUERNY, Calvados. *Église* is probably a monument of the first half of the XI century. The tower, whose lower portions are constructed of herring-bone masonry, is crowned by a lateral pyramid in stone. The mouldings are few and simple. (Ruprich-Robert.)

PUTOT-EN-AUGE, Calvados. *Église.* The choir, which is assigned to c. 1190 by Ruprich-Robert,[1] is decorated externally with engaged arcades similar to those of the church of Rots (Calvados). Like the nave, the tower is a construction of the XIII century, much modified in the late rayonnant period. (Ruprich-Robert; Benoist III, 56.)

STE. MÈRE-ÉGLISE, Manche. *Église* consists of three aisles, transepts, a central tower, and a rectangular choir. The crossing with its horseshoe arches is of the XII century, but the remainder of the edifice is of the early Gothic period. The vaults that cover the entire edifice are carried on a logical system; there is no clearstory. (De la Balle; Benoist.)

NEUFCHÂTEL, Seine-Inférieure. *Notre Dame*, although essentially a Gothic edifice, retains some fragments of Norman architecture. The choir, without ambulatory, was originally erected in the XIII century, but was rebuilt in its present form after a fire in 1472; the north transept, however, is a work of the XIII century. Most interesting is the south transept of the XV century, which ends in a semicircular apse. The exterior is characterized by the absence of flying buttresses and by the tower which precedes the church to the west. (De la Balle.)

BRIOUZES, Orne. *Prieuré St. André* is said to have been founded by William the Conqueror, and consecrated in 1080. There survives only the curious west gable, the half-dome of the apse, and a little square tower. (De la Balle.)

Église is said to have been consecrated December 11, 1095 (?). (Benoist IV, 19.)

VIENNE, Calvados. *Église* is said to be of the XI century. The central western tower is severely simple, except for its upper story, which is characterized by

[1] *Arch. Norm.* CXXX.

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richly decorated openings, arcades, and an arched corbel-table. A stone pyramidal roof of considerable elevation crowns the entire composition. The choir has been rebuilt, and the remainder of the edifice is of slight interest except for the south lateral doorway richly adorned with chevrons, frets, and triple billet mouldings. (De la Balle; Ruprich-Robert CXXXIV.)

JUAYE, Calvados. *St. Vigor.* This ruined edifice — one of the most gracious parish churches of the canton — consists of three aisles, a north lateral tower, and a choir with a square east end. The choir dates from the first half of the XII century; the tower and the nave are of the early Gothic period. Simple arches resting on cylindrical columns with crocketed capitals and round abaci characterize the design of the nave. (De la Balle; Benoist.)

AUVERVILLE-LA-GROSSE-TOUR, Calvados. *Église* is famous for its tower of the XIII century. The shell of the nave as well as the choir is Norman, but the vaults are an addition of the Renaissance. (Benoist.)

JORT, Calvados. *Église* consists of a nave flanked by side aisles, transepts, and a rectangular choir. The monument is probably a homogeneous structure of the last years of the XII century, although the choir at first sight would appear to be Gothic in character. In the south façade is preserved a fragment of a linteled doorway of the XI century; it is ornamented with stars and rinceaux of crude execution. (Ruprich-Robert; De la Balle; Benoist.)

BRETTEVILLE-L'ORGUEILLEUSE, Calvados. *Église.* This monument, which is assigned to c. 1220 by Ruprich-Robert,[1] betrays its late date only in the fineness of its mouldings, the ornament being otherwise thoroughly Norman in character. The tower is of the XIV century.

ST. PAIR, Manche. *Église* is entirely modern with the exception of the uninteresting tower said to date from 1131, the vaulted choir of the XV century, and the octagonal spire of the XIII century with its four angle turrets. (De la Balle.)

ST.-PIERRE-ÉGLISE, Manche. *Église.* Although rebuilt in 1651, this church still retains certain interesting fragments of ancient architecture. The curious round-arched portal, ornamented with chevrons and lozenges, is of the last period of Norman art, while the lancet windows of the first story belong to the Gothic style. The construction is assigned to 1190–1210 by De la Balle.

ROUTOT, Eure. *St. Ouen.* The original construction of this church, which seems never to have included side aisles or transepts, was executed in the XII century. The tower, of the very end of that century, is ornamented with intersecting arcades (some of the arches pointed) and an arched corbel-table. Pointed arcading also characterizes the exterior decoration of the rectangular choir. The western portions of the nave and the façade were rebuilt in the flamboyant period. (De la Balle; Benoist.)

BRETEUIL, Eure. *St. Sulpice.* The architectural forms of the central tower show that it must have been spared by the fire, which is said to have destroyed the church in 1138. The choir and ambulatory date from the XIII century. (De la Balle; Benoist.)

[1] *Arch. Norm.* CXXIV.

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FORMIGNY, Calvados. *St. Martin.* The Norman portions, assigned to c. 1130 by Ruprich-Robert,[1] are remarkable for the portals richly ornamented with chevrons, billets, etc. The nave has been much modernized; the north side aisle is an addition of the XIV century. A gable roof in stone surmounts the beautiful tower, which like the rectangular choir is evidently a work of the XIII century. (De la Balle; Benoist; Ruprich-Robert.)

ST. MARCOUF, Manche. *Église* consists of a choir, a nave, and a transept. The vaults of the choir and the nave belong to the flamboyant period; the lower portions of the tower are Norman, the upper stories additions of the XIII and XIV centuries; the portal whose archivolt is decorated with a chevron is also Romanesque; and the crypt is of the same period. (De la Balle.)

ST.-CÔME-DU-MONT, Manche. *Église.* The fact that this was at once a priory and a parish church explains the peculiar east end with its double choir and double apse. The main portal, part of the nave, and the north apse were erected in the XII century; the remainder of the church in the XV century. (De la Balle.)

MAUVES, Orne. *St. Pierre* is characterized by flat buttresses, a semicircular apse with round windows, a Norman choir, a single transept, and a tower of the XII and XIII centuries. (De la Balle.)

GUERON, Calvados. *Église.* The apse of this church is of interest for the ribbed half-dome whose ribs are given function through the raising of the lobe crowns. Externally the apse is characterized by shafts used as buttresses. Ruprich-Robert assigns this choir to the first half of the XII century,[2] but this is evidently an error, since the style of the ornament indicates a date at least as late as c. 1170. Adjoining the apse are buttresses and a portal of the XIII century. Of the main body of the church the tower and much of the nave were erected in the XV century, but the former has recently been rebuilt. (Ruprich-Robert.)

OUEZY, Calvados. *Église*, assigned by Ruprich-Robert to c. 1180,[3] is of interest for the capitals which show unmistakable signs of influence from the Ile de France.

PIN-LA-GARENNE, Orne. *Église*, assigned to 1160,[4] is of interest, since it retains some traces of painted ornament applied to the timber portions of the edifice.

ST. CYR, Orne. *Prieuré de Ste. Gauburge.* Parts of the original construction, founded, it is said, about 1064, probably still survive, although the present edifice dates mainly from the XIII century. There is only a single aisle; the tower, whose lower story forms a sort of transept, ends in a hipped roof with four pinnacles. (De la Balle; Benoist IV, 45.)

Église. The central western tower is of interest for the fine portal, whose figure capitals with foliage and grotesques show unmistakable signs of French influence. (Benoist.)

Notre Dame-de-Clémence.

PÉRIERS, Calvados. *St. Ouen.* The blank wall of the simple façade is broken by a central portal (whose lintel is surmounted by a semicircular relieving arch), a

[1] *Arch. Norm.* CXXIX.
[2] *Arch. Norm.* CXI.
[3] *Ibid.* CXVIII.
[4] *Ibid.* CXX.

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little window, and buttresses placed at the angles. The herring-bone masonry indicates that the construction must have been executed in the XI century. The nave and side aisles are ruined, while the central tower, if it ever existed, has entirely disappeared. The Gothic choir, however, is well preserved. (Ruprich-Robert; Cotman; De la Balle.)

HÉBERTOT, Calvados. *St. André* consists of a nave of a single aisle, a south-western tower, transepts, and a rectangular choir. The nave is roofed in timber; the choir is rib-vaulted in two bays. According to Ruprich-Robert,[1] the nave is of the XI century, the tower and choir of the XII.

COMMES, Calvados. *Église*, of the late XI or early XII century, is of interest for the fine tower, which, however, has lately been most unfortunately mutilated. The grouped windows and the angle of this tower are shafted, and the whole is surmounted by a pyramid whose stepped courses have been smoothed over with cement. (Ruprich-Robert.)

FONTAINE-LA-SORET, Eure. *Église*. The nave and the lateral tower (placed between the nave and choir) date from c. 1100; the choir is of the XVI century. The church, which is entirely roofed in wood, is interesting for the two stories of windows pierced in the side wall. (De la Balle.)

OSMOY, Seine-Inférieure. *Église*. The inscription of dedication is still preserved: "In the year of the incarnation of the Lord 1170, on the 26th of April, this church was dedicated in honor of . . . "[2]

BARRE-DE-SEMILLY. *Église*, of the second half of the XII century, consists of a single aisle with central tower and square chevet. The southern windows are modern. The choir is covered with rib vaults on a square plan. (De la Balle.)

ÉTRETAT, Seine-Inférieure. *Église*, of the XII century, is characterized by the use of columnar supports, by a small clearstory, by the absence of a system, and by richly ornamented archivolts. (Ruprich-Robert LXX.)

DUCY, Calvados. *Église*. The shafted Norman portal is surmounted by a sort of gable, ornamented with a rope moulding. Aside from this extraordinary doorway, the church is of interest for the choir of the XV century. (Ruprich-Robert; Benoist.)

ANGERVILLE-L'ORCHER, Seine-Inférieure. *Église* is remarkable for its fine tower ornamented with arched corbel-tables and grouped windows in many orders.

HUPPAIN, Calvados. *Église*, of the first quarter of the XII century, is remarkable for the picturesque tower placed on the south side of the nave. This tower is ornamented with intersecting double arcades, and crowned by a fine spire of the XIII century. The exterior of the single-aisled nave is decorated with shafted arches, rope mouldings, and flat pilaster strips. (Ruprich-Robert.)

MEUVAINES, Calvados. *Église* seems to date from the end of the XI century. The façade is characterized by a rich central doorway in several orders, flanked by

[1] *Arch. Norm.* CXXXIV.

[2] Anno ab incarnatione dn̄i MCLXX dedicata hèc ecclesia VI K̄l Maii in honore. . . . This interesting inscription is published in facsimile by Ruprich-Robert, *Arch. Norm.*, p. 201.

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two blind arches and surmounted by an arcade. The east end is square. (Ruprich-Robert.)

ALLEMAGNE, Calvados. *Tower* — the only existing remains of the ancient church — although assigned by Ruprich-Robert to c. 1070,[1] is clearly a work of the XII century. The base contains a little groin vault; the upper story is decorated with a double arcade. (Benoist III, 32.)

VER, Calvados. *St. Martin.* (Ill. 138.) The tower, which at present stands isolated from the church, is in many stories, a fact which doubtless induced Ruprich-Robert[2] to assign the construction to the beginning of the XI century. This, however, is clearly an error, since the style is that of the XII century. The ornament is rich, particularly in the upper stories; the openings are grouped; arcades occur; and the whole composition is topped by a stepped pyramidal roof. The choir of the church proper was rebuilt in the XIV century with a square east end, but the nave preserves its Norman piers. (Ruprich-Robert; Benoist; De la Balle.)

MONTGAROULT, Orne. *St. Remi.* The sculpture of the portal, though in the rich style of the XII century, is strangely Carolingian in character, and the carvings include several obscene subjects. The square east end and the transepts were rebuilt in the XIV century. Curious features of this monument are the windows pierced in the buttresses. (De la Balle; Benoist IV, 20.)

ENGRANVILLE, Calvados. *Église.* The ruined nave is remarkable for its fine Norman doorway with rich ornamentation. The choir of the XIII century is vaulted. A four-sided pyramid pierced in each face by a little dormer surmounts the square tower. (De la Balle.)

DUCLAIR, Seine-Inférieure. *Église* — a Norman structure, whose choir has been rebuilt in the XIV century. (Benoist.)

VAUVILLE, Manche. *Église.* The aisles and the tower are said to date from the XII century; the nave, however, has been rebuilt in the early Gothic period, and the choir is a work of the Renaissance. A continuous gable roof, whose slope is interrupted only by the tower, covers all three aisles. This tower consists of two stories of coupled windows. (De la Balle.)

GRISY, Calvados. *Église.* The principal portal is assigned to c. 1160 by Ruprich-Robert,[3] but the main body of the church is of the Gothic period. The tower ends in a rampart that gives it the appearance of a donjon. (Benoist.)

AUTHIE, Calvados. *Église* is assigned to c. 1150 by Ruprich-Robert.[4] A tower of the XIII century rises between the choir and the nave.

MARIGNY, Calvados. *Église*, which may be assigned to c. 1150, consists of a single aisle with a square east end. The choir is groin-vaulted, but the nave preserves a timber ceiling of the XIV century. The lateral doorway is remarkable for its rich ornament. (De la Balle; Ruprich-Robert.)

FONTAINE-HALBOUT, Calvados. *Église.* The northern portal, to-day walled up, is a fine example of XII century ornament, the archivolt being richly carved

[1] *Arch. Norm.* LXXX.
[2] *Arch. Norm.* XXXII.
[3] *Arch. Norm.* CXIX.
[4] *Ibid.* CXXIII.

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with chevrons. The tower and pyramid are also elegant specimens of the style of architecture in vogue c. 1200. (De la Balle.)

BRUCHEVILLE, Manche. *Église.* The interesting tower of the XII century is ornamented with coupled windows enclosed in triple orders, drip-moulded and shafted. A portal of the XIII century is the most interesting portion of the nave — a single-aisled structure of the XII century that has been much rebuilt. The transepts and rectangular choir are without architectural character. (De la Balle; Benoist.)

GRAINVILLE, Calvados. *Église*, which is said to be one of the best preserved monuments in the département, consists of a Norman nave, a choir of the XIV century, and a north lateral tower of the XV century, rising between the choir and the nave. (Benoist III, 38.)

ST. LOUP, Manche. *Église.* This interesting monument, which probably dates from the XII century, consists of a nave, a choir ending in a semicircular apse, and a central tower. The portal is richly decorated. (De la Balle.)

BEAUMONT-EN-AUGE, Calvados. *Prieuré.* Only a single bay of the nave survives, but the Norman central tower together with transept and choir — the two latter constructions of the early Gothic period rebuilt in the XVI century — is well preserved. The choir vaults are modern.

HARCOURT, Eure. *Chapelle* is assigned by Ruprich-Robert to c. 1150,[1] but is probably considerably later. Nothing survives but the rectangular choir, covered with quadripartite rib vaults.

ÉTREHAM, Calvados. *St. Romain.* The façade still retains a round-arched portal, although the nave, the choir, and the central tower have all been altered in the XIII century. The tower is of dignified design, and is crowned by a gable roof. (De la Balle.)

CHAMPS, Orne. *St. Évroult*, said to have been erected in the XI century, has been much modernized, but the rich portal and the semicircular apse of the ancient church still survive. Several large windows pierced in the XV and XVI centuries are filled with fine glass. (Benoist.)

QUILLY, Calvados. *Église.* The tower, low, flat-roofed, and partially buttressed, seems rather crude than early, although Ruprich-Robert does not hesitate to assign the construction to the first years of the XI century. This, however, is certainly an error, since the shafted windows and dog-tooth ornaments indicate a date at least as late as the end of the XI century.

CAMBRES, Calvados. *Église.* The façade is pierced by three little windows, but contains no doorway. It is constructed of herring-bone masonry — an earmark of the style of the XI century. (Ruprich-Robert.)

BOUGY, Calvados. *St. Pierre.* The nave is assigned by Ruprich-Robert to c. 1220, but the choir may be somewhat earlier. Transepts, side aisles, and western portals are omitted. The decorative features — a curious mixture of Norman and Gothic forms — include arched corbel-tables and shafted lancets. (De Caumont.)

ST. FLOXEL, Manche. *Église* consists of a single aisle, transepts, a central

[1] *Arch. Norm.* LVI.

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tower, and a rectangular choir. Only the lower half of the tower and the crossing which it surmounts are of the Norman period, the remainder of the church being for the most part a work of the XIII century. (De la Balle.)

MALTOT, Calvados. *St. Pierre* consists of a single-aisled Norman nave and a rectangular Gothic choir. The exterior of the choir is adorned with an arcade of pointed arches. (De Caumont.)

CRIQUETOT, Seine-Inférieure. *Église* contains remains of three different epochs: the choir is Norman; the nave and the two chapels forming transepts, works of the XVI century; and, finally, the side aisle is of the Renaissance.

VILLIERS-SUR-PONT, Calvados. *St. Nicolas.* The nave and the base of the tower are of the first half of the XII century; the choir, the upper portions of the tower, and the beautiful spire are of the early Gothic period. The monument is much ruined. (De la Balle.)

ALLEAUME, Manche. *Notre Dame.* Some fragments of Norman work still survive, although the choir dates mainly from the XIII century, while the tower, the sacristy, the portal, and the greater portion of the nave are modern. (De la Balle.)

ÉCRAINVILLE, Seine-Inférieure, *Église*, which is assigned to c. 1150 by Ruprich-Robert, is entirely roofed in timber. The nave and side aisles are characterized by the columnar supports, by the archivolts in two orders, and by the absence of clearstory, system, and buttresses.

BLAINVILLE, Manche. *Église.* The central tower is of the XII century, but the spire is modern and the single-aisled nave is of the flamboyant period. (De la Balle.)

ST.-LÉONARD-DE-VAINS, Manche. *Prieuré* may be assigned to the end of the XI century. This monument is desecrated; the nave has been converted into a stable, and the tower into a dwelling-house whose kitchen has been established in the ancient choir. The lower story of the tower contains a simple groin vault. (De la Balle.)

PERVENCHÈRES, Orne. *Notre Dame.* Among modern restorations, there may still be distinguished the main portal and other remains of the XII century church. The master builder, who in 1483 remade the rectangular choir and all the timber roofs, signed his name upon one of the piers which still support the central tower. (De la Balle.)

SAINT-SAENS, Seine-Inférieure. *Église.* The nave six bays long dates from the XIII century, but the north side aisle was reconstructed in 1840, while the central tower is Norman. The main arcades are supported by short monocylindrical piers, crowned by capitals with octagonal abaci and with a double row of crockets. The church contains no vaults, but some of the XV century glass survives.

SOUSMONT, Calvados. *Église* contains a bizarre assemblage of fragments of the XII, XIII, XV, and XVI centuries. The most picturesque feature is the tower terminated *en batière.*

GOUSTRANVILLE, Calvados. *Église.* The nave is Norman, but the lateral tower, though commenced in the XII century, was terminated only in the flamboyant period. (Benoist III, 56.)

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THURY-HARCOURT, Calvados. *Église.* Although the lower portions of the walls are Norman, the church in its ensemble belongs to the early Gothic period. Two side aisles flank the nave, which is separated from the square choir by a central tower. (Benoist.)

TORDOUET, Calvados. *Église.* This timber-roofed church is notable for the octagonal tower on a square base, which rises between the choir and the nave. (Ruprich-Robert.)

FRIARDEL, Calvados. *Église*, which is assigned by Ruprich-Robert to the end of the XI century, is of very small dimensions, and consists of a single-aisled nave terminating in a semicircular apse.

HERMANVILLE, Calvados. *Église*, of the Norman period, is said to be almost perfectly preserved.

TINCHEBRAY, Orne. *St. Remi* dates mainly from the XI century, although many additions — including the present pointed vaulting underneath the central tower — were made in the XII century. The nave has been torn down; only the transepts and choir remain. There is very little ornament of any kind. (De la Balle.)

TOUQUES, Calvados. *St. Pierre* consists of three aisles roofed in timber, a vaulted choir and transepts, and an octagonal tower. The nave which seems to date from the XI century is characterized internally by archivolts in two orders, externally by plain archivolts and flat corbel-tables. (De la Balle; Benoist.)

VIRVILLE, Seine-Inférieure. *Église* is remarkable for its interesting central tower. This tower is only a single story in height, and each face is pierced by two windows flanked by blind arches. (Ruprich-Robert.)

ROCHE-MABILE, Orne. *Église* consists of a nave, transepts, a semicircular apse, and a central tower. The construction is very crude, and may be assigned to the first half of the XI century, but the vault of the crossing seems to be a later addition. (De la Balle.)

ENGLESQUEVILLE, Calvados. *Église.* The Norman tower, although unfinished, is interesting for its oculi. The rest of the church belongs to the XIV century. (Ruprich-Robert; Benoist.)

CHAMPEAU, Manche. *Église.* Although some portions of the walls are Norman, the main body of this church is of the XVI century. The monument is interesting for the deep porch and for the central campanile whose bells are placed in openings arranged in a strangely picturesque manner. (De la Balle.)

CAGNY, Calvados. *Prieuré.* The church, though desecrated, is said to be well preserved. (Benoist.)

INCHEVILLE, Seine-Inférieure. *St. Lubin.* The choir, which terminates in a polygonal apse, is said to be of the XII century. (Darsy.)

HÉRONVILLE-ST.-CLAIR, Calvados. *Église* is assigned to c. 1130 by Ruprich-Robert.[1]

TILLY-SUR-SEULLES, Calvados. *St. Pierre* is assigned to c. 1150 by Ruprich-Robert.[2]

[1] *Arch. Norm.* CXVI. [2] *Ibid.* CXIV.

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Notre Dame-du-Val, contains two remarkable portals, one of which is assigned to c. 1160, while the other appears to be very early. (Ruprich-Robert CXIV.)

SERQUIGNY, Eure. *Église.* A remarkable portal of the XII century, ornamented with birds' heads, chevrons, etc., is preserved in the XVI century façade. The timber-roofed nave dates from the flamboyant period, but the central tower is of the XIV century. The entire monument has been very thoroughly restored. (Ruprich-Robert CXIII.)

VAUX-SUR-SEULLES, Calvados. *Église*, although much disfigured, is remarkable for the arcading with which the walls of the choir are adorned externally. (Benoist.)

GLOS, Calvados. *Église* contains architectural fragments of the XII and several succeeding centuries. (Benoist III, 66.)

LA FERTÉ-MACÉ, Orne. *Église.* The tower with its shafted windows in three orders and its flat corbel-tables, dates from the late XII century. The remainder of the edifice, dating mainly from the XIII and XIV centuries, is without interest. (De la Balle; Benoist IV, 34.)

ST. WANDRILLE, Seine-Inférieure. *Chapelle St. Saturnin.* This curious little monument is very similar to the Carolingian chapel at Querqueville, but is said to have been reconstructed by the abbot Gérard, at the beginning of the XI century.

EXMES, Orne. *Église.* The nave is partly Norman, partly Gothic in style; the choir, whose reconstruction was begun in the XV century, remains unfinished. (Benoist IV, 20.)

CRESSERONS, Calvados. *Église.* The western portal is surmounted by three arches, the central one of which is pierced by a window. All the archivolts are richly ornamented. (Ruprich-Robert.)

CARCAGNY, Calvados. *Église* is of interest only for its well-preserved Norman apse. (Benoist.)

PAVILLY, Seine-Inférieure. *Église* is said to be Norman in style. The piers of the nave are square with engaged colonnettes. (Benoist.)

STE. CROIX, Eure. *Église.* Of the little building of the XIII century only the nave walls survive. In the XVI century the present side aisle was added to form a sort of southern chapel with a square east end. Above the western portal rises a modest bell tower. The church contains glass of the XVI century. (De la Balle.)

ROUARE, Seine-Inférieure. *Église.* The only remains of the Norman church are to be found in the tower adorned with a double row of arcades. The main body of the monument has been reconstructed in the XV and XVI centuries.

ST. ROUMIN, Seine-Inférieure. *Église* consists of a single-aisled nave, a central tower, and a semicircular apse. The tower contains grouped and coupled windows of the late XII century; the choir is contemporary. The ensemble of this little monument is highly picturesque. (Brochure Series II, 27.)

ROTHES, Eure. *Église.* The linteled portal, which dates probably from the end of the XI century, is ornamented with dog-tooths and Carolingian triangular motives. (Ruprich-Robert.)

PORBAIL, Manche. *Notre Dame*, with the exception of a few minor addi-

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tions and the XV century tower, is a homogeneous Norman edifice. The archivolts of the arches of the crossing are in two orders, and the piers are shafted. (De la Balle.)

BARON, Calvados. *Église.* The choir is of the XIII century as is also the north lateral tower, with the pyramid by which it is crowned. The nave, partly Norman, has been much modernized. (De Caumont.)

CARPIQUET, Calvados. *St. Martin.* The main portal is in the rich Norman style of the XII century; the nave is Gothic; and the choir flamboyant. (De Caumont; Benoist II, 31.)

MONTEBOURG, Manche. *Abbaye.* Nothing survives except the foundations, the apse, and the transeptal absidioles. (De la Balle.)

BARBERY, Calvados. *Abbaye* is said to have been founded in 1140. Some architectural fragments of interest survive. (Benoist.)

COLOMBELLES, Calvados. *Église*, of the Norman period, is decorated externally and internally with arcades. (Benoist III, 48.)

DRUBEC, Calvados. *Église.* The upper stories of the Norman tower are octagonal. (Benoist.)

TRÉVIÈRES, Calvados. *Église* is said to date mainly from the XII century. The base of the tower is square, but the upper stories (added in the XIII century) are octagonal. (Benoist III, 106.)

MOULT, Calvados. *Église.* The Norman choir is not without interest.

ST. ARNOULT, Calvados. *Prieuré.* The rectangular Norman choir, which is said to date from the XI century, is ornamented internally with engaged arcades. The nave, originally of the same period, has been altered in the XV century. The monument is in ruins. (De la Balle.)

BURES, Seine-Inférieure. *Église* was consecrated on the 21st of May, 1168, by the Archbishop of Rouen, Rotron de Warwick, as is indicated by an inscription incorporated in the north wall. The nave, the portal, and the transepts were altered in the XIII century. (De la Balle.)

PERRIÈRE, Orne. *Église.* The tower of the last half of the XII century survives, but the interest of the rest of the edifice has been destroyed by restorations. (De la Balle; Benoist.)

ST.-GERMAIN-LA-BLANCHE-HERBE, Calvados. *Église.* The original construction of the XII century probably consisted of a single-aisled nave and a choir, but these dispositions have been much modified. The existing vault is Gothic. (De Caumont.)

VERSON, Calvados. *Église* consists of a nave, two side aisles, transepts with absidioles, a central tower, and a rectangular choir. The construction is mainly of the XIII and XIV centuries, but there are some fragments of Norman architecture, while the tower is flamboyant. (De Caumont.)

THIBOUVILLE, Eure. *Église.* In the course of a recent restoration, a fine Norman doorway of c. 1100 was discovered. The nave dates from about the same period. The central tower fell in 1847. (De la Balle.)

LESTRE, Manche. *St. Michel.* The Norman apse and some pointed arcades are all that remain of this completely ruined edifice. (De la Balle.)

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FEINGS, Orne. *Église.* This church of the XI century has been much modernized, but is still of interest for the central western tower, the curious portal, and the timber roof of the XV century. (De la Balle.)

CLÉRAI, Orne. *Église* consists of a single-aisled nave, transepts, a western tower, and a choir. The double arch of the chapel is the only fragment of the primitive edifice which survives; the rest of the church has been rebuilt at various epochs. (De la Balle.)

TIERCEVILLE, Calvados. *Église* is of the end of the XII century. The portal is remarkable for the curious leaf ornament carved upon its archivolt and for the capitals which show the influence of the style of the Ile de France.

FRESVILLE, Manche. *Église.* The nave is said to date from the XI century. (Benoist V, 63.)

SULLY, Calvados. *Église* is of interest chiefly for its sculptured corbel-tables. The choir is covered with a Gothic vault; the tower dates from the late flamboyant period. (Benoist.)

FOULBEC, Seine-Inférieure. *Église* is assigned to c. 1150 by Ruprich-Robert.[1] The west portal, in two orders and shafted, is ornamented with frets and with diapered columns.

BRETTEVILLE-SUR-ODON, Calvados. *St. Pierre,* which is assigned by Ruprich-Robert to c. 1170,[2] is of interest chiefly for the obscenity of several of its corbel-tables.

CHIPONVILLE, Seine-Inférieure. *Église* is a picturesque little building with a portal of the XII century, and a spire of the flamboyant period. (Benoist.)

BRECEY, Manche. *Église* is said to be of the last half of the XII century. (Benoist.)

ARGENCE, Calvados. *St. Patrice* is notable for certain fragments of Norman architecture, and for the choir of the XV century. (Benoist.)

ST.-PIERRE-DU-MONT, Calvados. *Église.* The corbel-tables are especially obscene. (Benoist.)

MORTAGNE, Orne. *St. Germain de Loisé.* The nave is Norman; the rest of the church is flamboyant or Renaissance. The vaults have been destroyed. (De la Balle.)

Chapelle de St. Santin, erected between 940 and 997, has since been frequently altered. Some parts of the present edifice may be as early as the XI (X?) century. (De la Balle.)

ST. AUBIN, Calvados. *Église.* The nave is Norman; the choir was vaulted in the XIII century. To the north of the choir is a great chapel which, as is known from an inscription, was founded in 1346.

ST.-DENIS-SUR-SARTHON, Orne. *Église,* of the late XII century, is peculiar in that the broad transepts are separated from the nave by columns, and thus appear almost like side aisles. The east end is square; the tower stands to the south. (De la Balle.)

BELLENGREVILLE, Calvados. *Église* is mainly of the XII century, but the portal is said to belong to the Norman period.

[1] *Arch. Norm.* CXXVIII. [2] *Ibid.* CXXV.

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LONGUEVILLE, (Canton d'Isigny), Seine-Inférieure. *Église.* The tower which has been covered with stucco concealing the masonry, is of little interest. The church itself is of the XI and XVI centuries. In the north wall of the nave may be seen four arcades now walled up; these originally opened upon a side aisle. (Ruprich-Robert.)

DEUX-JUMEAUX, Calvados. *Prieuré.* Of the ancient church of the XI century only the transepts, the choir, and the semicircular apse survive. The north transept façade is peculiar; the angles are reinforced by buttresses, and on the ground story are two very irregularly constructed oculi surrounded by billet mouldings. (Ruprich-Robert; Benoist III, 109.)

MONTEMER-EN-LIONS, Eure. *Abbaye,* of which only scattered fragments survive, was founded in 1134. The church seems to have been commenced in 1137, but was not completed until the XV century. (De la Balle.)

CASTILLON, Calvados. *Église* is said to date mainly from the XII century, although the choir was vaulted in the XIII century, and other alterations were carried out in the flamboyant period. (Benoist III, 12.)

LA CAINE, Calvados. *Prieuré* is a small building terminating in a semicircular apse. The north wall has preserved its primitive character of the XII century. (De Caumont.)

YAINVILLE, Seine-Inférieure, *Église* of the early XII century, consists of a single-aisled nave, a choir, and a semicircular apse. Two transverse arches divide nave from choir and choir from apse. (Ruprich-Robert.)

SUBLES, Calvados. *Église.* With the exception of some fragments of Norman architecture preserved in the northern wall of the nave, the church is a homogeneous monument of the XIII century.

STE. CÉRONNE, Orne. *Église,* which dates from the early XII century, is characterized by a semicircular apse and a central western tower. (De la Balle.)

VAUX, Calvados. *Notre Dame* retains among modern additions a Norman nave and a Gothic choir. (De Caumont.)

COUVERT, Calvados. *Église* is in part of the XII, in part of the XIV, century. (Benoist.)

ANDOUVILLE, Manche. *Église.* The nave is said to be Norman. (Benoist.)

VERNIX, Manche. *Église.* The fine western portal and the lateral portal must date from the end of XII century. The rest of the monument is a mixture of various later styles. (De la Balle.)

BARNEVILLE-LA-BERTRAND, Calvados. *Église* is said to be mainly of the XII century, but the square east end is pierced by three Gothic lancet windows now walled up.

ST.-SAMSON-SUR-RILLE, Eure. *Église,* notwithstanding its very small dimensions and its present condition of ruin, is interesting for the peculiar capitals it contains. The east end is square. (Cotman.)

ST.-SULPICE-SUR-RILLE, Orne. *Église.* Some of the walls are Norman; the interest of the church, however, centers in the XIII century glass. (De la Balle.)

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YVILLE, Seine-Inférieure. *Église.* The tower dates from the end of the XII century, but the choir and nave have been rebuilt in the XVI and XVII centuries. (De la Balle.)

FRESNAUX, Orne. *Chapelle des Templiers*, now desecrated, is a rectangular wooden-roofed structure of the end of the XII century. (De la Balle.)

MATHIEU, Calvados. *Notre Dame.* The nave is said to date from the end of the XI or early XII century. (De la Balle.)

CAIRON, Calvados. *Église.* The nave is Norman, but the choir is said to be of the XIII century. (Benoist.)

MONDEVILLE, Calvados. *Église.* The choir is said to be of the end of the XII century, the nave and the tower of the early Gothic period.

TESSEL, Calvados. *Église* is assigned to c. 1140 by Ruprich-Robert.[1]

BOUTEVILLE, Manche. *Église.* The nave is said to be Norman. (Benoist.)

TOLLEVAST, Manche. *Église* still preserves, notwithstanding the reconstruction of the central tower in the XIII century and of the south wall of the nave in 1757, the dispositions of the second half of the XII century. The main portal in four orders is ornamented with frets and surmounted by a most peculiar tympanum. The choir is covered with Lombard rib vaults; but since the ribs rest on corbels these vaults may well be a later addition. (De la Balle.)

ST.-JAMES-DE-BEURRON, Manche. *St. Jacques-le-Majeur* is the ancient chapel of the priory, said to have been erected about 1027. The portal, which serves as an entrance to the present crypt, is the only ancient portion of the existing edifice, and this must be as late as the XII century, since it is in two orders, — shafted and moulded. (De la Balle.)

LANDE-PATRI, Orne. *Église.* The choir, lighted by narrow lancets, is characterized by arcades with pointed arches resting on capitals of a singularly Norman type. (Benoist IV, 32.)

BULLY, Calvados. *Église.* The portal, which is assigned to 1070 by Ruprich-Robert, is without orders and surmounted by a relieving arch. The ornament consists of very crude sculptures and carved dog-tooths analogous to those of the Basse Oeuvre of Beauvais.

LA-CROIX-STE.-LENFROY, Eure. *Église* still preserves many fragments of Norman walls but is interesting chiefly for the tower of the XVI century. The choir and lateral chapel date from 1895. (De la Balle.)

ST.-PIERRE-DE-SEMILLY, Manche. *Église*, consisting of a single-aisled nave and a rectangular choir, dates mainly from the XII century, but has been modernized. The decoration of the portal is unique. (De la Balle.)

RANVILLE, Calvados. *Église* dates largely from the XV century, but preserves certain rudely carved arcuated lintels of the Norman period. (Ruprich-Robert; Benoist.)

LE TANU, Manche. *Église.* The choir is Norman; the portal Gothic; the tower of the XVII century. (Benoist.)

[1] *Arch. Norm.* CXXII.

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OTHER MONUMENTS

CAINET, Calvados. *Église* is in great part a work of the last years of the XII century. (Benoist III, 43.)

ÉCOVILLE, Calvados. *Église* is said to date mainly from the last half of the XII century. (Benoist.)

HODENG, Seine-Inférieure. *Église.* A Norman tower flanks the choir. (De la Balle.)

AIGLE, Orne. *St. Barthélemy* is a monument of the XII century. (Benoist.)

St. Jean is a patchwork of fragments of many different epochs. The earliest portions are said to be of the XII century.

SÉEZ, Orne. *St. Pierre* preserves in part the walls of the XI century edifice. A dedication of this church took place in 1361.

Notre Dame-de-la-Place consists of a nave, a south lateral tower, and an apse. (De la Balle.)

BAZOCHES-SUR-HOÊNE, Orne. *Église* retains a curious Norman portal, although the edifice was thoroughly rebuilt after a collapse which occurred in 1561. (De la Balle.)

MEUVAINES, Calvados. *Église*, in part Norman, is of interest chiefly for its portal. (Benoist.)

ST.-MARTIN-DE-LA-SEINE, Calvados. *Église* consists of a single aisle and a rectangular choir. (Ruprich-Robert.)

ST.-MARD, Eure. *Église* is a charming Norman structure which has been desecrated no less than seven times.

MAISONS, Calvados. *Église.* The nave is Norman, the choir Gothic.

FONTAINE-ÉTOUPEFOUR, Calvados. *Église.* The nave which dates from the end of the XII century is of interest. (Benoist III, 35.)

COURCY, Calvados. *Église* is ornamented externally with arcades. (Benoist.)

ST. BRICE, Manche. *Église* dates mainly from the Norman period, but the choir with its stained glass is of the XVI century.

BRICQUEBEC, Manche. *Église* is said to be a good example of Norman rural architecture. (Benoist V, 64.)

GRAYE, Calvados. *Église* is of interest chiefly for the segmental arch of the portal.

FONTENAILLES, Calvados. *St. Pierre* is assigned to c. 1140 by Ruprich-Robert.[1] The tympanum of the principal portal is modern, but the lateral portal is an example of the pure Norman style. (Benoist.)

ST.-PAUL-DU-VERNAY, Calvados. *Église.* The figured capitals are of the XII century. (Benoist III, 110.)

LOISAIL, Orne. *Église.* The XI century edifice was completely transformed in the flamboyant and Renaissance periods. The original plan consisted of a single-aisled nave and a semicircular apse.

TROIS-MONTS, Calvados. *Notre Dame* has been much modernized, but the arches of the crossing retain their rich Norman decoration of the XII century. (De Caumont.)

[1] *Arch. Norm.* CXXII.

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ST. QUENTIN, Manche. *Église* is of interest for the porch, the corbel-tables of the nave, and the tower in part Norman. (De la Balle.)

CHÈVREVILLE, Manche. *Église* consists of nave and choir without transepts. The portal is a fine example of the style of the Renaissance. (Benoist V, 47.)

ST. MAUVIEUX, Calvados. *Église* contains fragments of many different epochs, but especially of the XII and XV centuries. (Benoist III, 38.)

FIERVILLE, Calvados. *Église.* The architecture is a curious combination of the styles of the XII and XIII centuries.

QUIÈVRECOURT, Seine-Inférieure. *Église*, despite numerous rebuildings, retains fragments of the XII and XIII centuries. (De la Balle.)

VASSY, Calvados. *Chapelle.* The round arches and rectangular buttresses are of Norman construction. (Benoist.)

BOUELLES, Seine-Inférieure. *Église* in spite of various rebuildings preserves a portal of the XII century.

PASSAIS-LA-CONCEPTION, Orne. *Chapelle St. Auvieu*, said to be of the XI century or even older, has been altered at various later epochs. (De la Balle.)

PARFOURU-L'ÉCLIN, Calvados. *Église.* The tower crowned by a pyramid is constructed of herring-bone masonry, and consequently is thought to be as early as the XI century.

NESLE-EN-BRAY, Seine-Inférieure. *Église.* The style is said to be that of the XII and XIII centuries. (De la Balle.)

MERLERAULT, Orne. *Église*, in part Norman, is flanked by a tower of the XIV century.

CÉRISY-BELLE-ÉTOILE, Orne. *Église* is an unimportant monument with a central western tower. (De la Balle.)

HUBERT-FOLIE, Calvados. *Chapelle* in part Norman, in part of the XIII century.

CULLY, Calvados. *Église.* The tower is Norman. (Benoist.)

FONTENAY, Calvados. *St. André* is a construction of the last years of the XII century remarkable for the pointed arches which occur in the arcades and vaults. (Benoist III, 35.)

CRÉCY, Calvados. *Prieuré* contains some fragments of XII century architecture. *Église* is of several different epochs. (Benoist.)

PIERREPONT, Calvados. *Église*, in part Norman, is of interest for the portal and for the corbel-tables sculptured with grotesques and obscenities.

FAUVILLE, Seine-Inférieure. *Église* retains some fragments of Norman architecture. The choir is lighted by fine windows of the XIII century. (Benoist I, 99.)

VILLERS-CANIVET, Calvados. *Abbaye-aux-Femmes* was founded in the first half of the XII century. Only ruins survive. (Benoist III, 83.)

PLANQUERAY, Calvados. *Église* of the XI century was almost entirely rebuilt in 1744. (Benoist.)

ORVAL, Manche. *Église* is a monument of the XI century. (Benoist V, 54.)

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VIRE, Calvados. *St. Thomas* is remarkable for the Norman portal. (Benoist.)

BOUCEY, Manche. *Église* is without western portal.

CORNEVILLE, Eure. *Abbaye* is said to have been dedicated by Hugh of Amiens, Sept. 3, 1147. Only vestiges survive. (Benoist.)

Église. The façade is Norman.

ST.-AIGNAN-DE-CRAMESNIL, Calvados. *Église.* The little southern portal is interesting for its wooden door, which is the original one of the Norman period, and probably a unique example. (Ruprich-Robert, 160.)

VESSEY, Manche. *Église* is said to be anterior to the X century (?). (Benoist V, 37.)

TICHEVILLE, Orne. *Église* is of interest for the rectangular choir and for the north porch with its Norman portal. (De la Balle.)

SOMMERVIEU, Calvados. *Église* is remarkable for the Norman portal and for the choir of the XIII century.

NOE, Eure. *Abbaye.* Some fragmentary ruins of the church founded by Henry II in 1144 still survive. (Benoist.)

MONTGAUDRY, Orne. *Église* of the end of the XII century, has been very thoroughly restored. The choir is entirely modern. (De la Balle.)

MESNIÈRES, Seine-Inférieure. *Église* although rebuilt in the XVII and XVIII centuries, retains some fragments of Norman architecture in the nave, and a chapel of the XIII century.

CREMELLE, Calvados. *Église* retains here and there some fragments of ancient architecture.

CAENCHY, Calvados. *Église.* Some portions date from the Norman period. (Benoist.)

VIEUX-FUMÉ, Calvados. *Église* is said to date from the last half of the XII century.

ELLON, Calvados. *Église* is in part of the XII century. (Benoist III, 111.)

CRICQUEBEUF, Calvados. *Église*, of the last half of the XII century, is now completely ruined. (Benoist.)

BEUVILLE, Calvados. *Église* is constructed of herring-bone masonry, and therefore is probably as old as the XI century.

VAL, Calvados. *Abbaye* is known to have been in existence in 1125, but the existing ruins are of much later date. The plan of the nave can still be made out. (Benoist III, 84.)

NEUFBOURG, Manche. *Église* which is probably not as old as is usually believed, consists of a single aisle, transepts, a central tower, and a rectangular choir. The vaults are of the XIII century. (De la Balle.)

LYON-LA-FORÊT, Eure. *Abbaye.* Remains are extant of two ruined churches, one of the XII century (founded by Henry I of England in 1134), the other of the flamboyant period.

ÉPRON, Calvados. *Église*, of slight interest, contains fragments of architecture of the XI, XII, and XV centuries, but is for the most part modern. (De Caumont.)

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GODEFROY, Manche. *Église* retains some traces of herring-bone masonry. (Benoist.)

SARTILLY, Manche. *Église* contains a fine Norman lateral portal. (Benoist.)

AIRAN, Calvados. *Église* belongs to the last half of the XII century.

CHEF-DU-PONT, Manche. *Église* of the Norman period is not without interest. (Benoist.)

ACQUEVILLE, Calvados. *Église* retains the southern wall and a charming portal of the Norman edifice of the end of the XII century. (Benoist.)

LA HOGUETTE, Calvados. *Abbaye St.-André-en-Gouffern* is said to have been founded in 1130.

ST. POIS, Manche. *Église* of the Norman period. (Benoist.)

ESSAY, Orne. *Église* consists of a western tower, a single-aisled nave, and a rectangular choir. With the exception of the Norman portal, the church has been thoroughly modernized.

FRIBOIS-ST.-LOUP, Calvados. *Église* contains a very graceful Norman portal ornamented with chevrons. (Benoist III, 71.)

ST.-VIGOR-LE-GRAND, (St.-Vigor-de-Mieux), Calvados. *Prieuré.* An entrance porch of the XII century survives. (Guide Joanne.)

VIERVILLE, Calvados. *Église* is said to date from the XII and XIII centuries. (Benoist.)

LIEURY, Eure. *Église.* The most ancient portions are of the Norman period.

LANQUETOT, Seine-Inférieure. *Église.* The tower of the XII century is adorned with a shafted window. (Guide Joanne.)

STE.-HONORINE-DE-DUCY, Calvados. *Église* is notable for several fragments of Norman architecture.

ST.-LAURENT-DE-CONDEL, Calvados. *Église,* dating from c. 1200, is a remarkable example of the Norman transition.

URVILLE, Manche. *Église* retains two Norman portals. (Benoist.)

CANAPVILLE, Calvados. *Église* retains some fragments of Norman architecture.

ST.-MARTIN-DE-VARREVILLE, Manche. *Église.* The nave is Norman. (Benoist.)

AVENAY, Calvados. *Église* contains some fragments of XII century architecture. (De Caumont.)

BONS, Calvados. *Église* is said to date from the XII and XIII centuries.

ARDEVON, Manche. "*Baptistère,*" so called. Part of the wall is in herring-bone masonry. (Benoist.)

NONANT, Calvados. *Église.* The lateral portal is of the XII century. (Benoist.)

VENDES, Calvados. *Église* is in part Norman, in part of the XIII century.

RÉVILLE, Manche. *Église.* The nave is Norman. (Benoist.)

ÉTAVAUX, Calvados. *Notre Dame* is a ruined edifice of the XII century. (De Caumont.)

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ÉCAUSSENVILLE, Manche. *Église.* The choir is Norman. (Benoist.)

CHARLEVAL, Eure. *Église* is notable as retaining some traces of painted ornament. (Benoist II, 75.)

REVIER, Calvados. *Chapelle Ste. Christine* is assigned to the end of the XII century.

ST. FRONT, Orne. *Église* has been recently rebuilt, but retains some fragments of Norman architecture. (Benoist.)

BÉNERVILLE, Calvados. *Église* retains some fragments of architecture of the XI century. (Benoist.)

SACY, Manche. *Église* is remarkable for its portal, whose tympanum is decorated with a sculptured zodiac. (Benoist.)

VALLETOT, Eure. *Église* is notable for the fine Norman portal. (Guide Joanne.)

VAINS, Manche. *Église* is in part Norman, in part Gothic. (Benoist.)

TOURGÉVILLE, Calvados. *Église* is said to be of the XI century. (Benoist.)

SORTOSVILLE, Manche. *Église* retains a Norman apse. (Benoist.)

ST. SAIRE, Seine-Inférieure. *Église* contains a portal of the XI century. (De la Balle.)

ROUVION, Orne. *Église* is in part Norman. (Benoist.)

OCCAGNES, (Occaignes), Orne. *Église* is of the late XII century.

LA MOTTE, Manche. *Église* contains some Norman remains. (Benoist V, 45.)

FATONVILLE-GRESTAIN, Eure. *Église.* The lateral portal is of the XI century.

ÉCAJEUL, Calvados. *Église* is in part Norman.

BELLÊME, Orne. *Chapelle St. Sanctin* is of the XI century.

ST. HYMER, Calvados. *Ste. Milaine* is in part Norman. (Benoist.)

FUEGUEROLLES-SUR-ORNE, Calvados. *Église* contains some fragments of XII century architecture. (De Caumont.)

YVRANDE, Orne. *Prieuré*, completely ruined, is said to have been founded by Richard-Coeur-de-Lion. (Benoist.)

RAPILLY, Calvados. *Église.* The nave is Norman, the choir Gothic.

RANVILLE-LA-PLACE, Manche. *Église.* The nave is Norman. (Benoist.)

ST.-JEAN-LE-THOMAS, Manche. *Église* is of the XII, XVI, and XVII centuries.

PLUMETOT, Calvados. *Église* retains fragments of architecture of the XI and XIV centuries.

ORGLANDES, Manche. *Église* contains some Norman details. (Benoist.)

MARAIS-VERNIER, Eure. *Église* is said to have been dedicated in 1129. (Benoist II, 64.)

MAGNY, Calvados. *Église* was thoroughly restored in 1846. (Benoist.)

MAGNEVILLE, Manche. *Église.* The choir is Norman. (Benoist.)

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FRESNAY-LE-PUCEUX, Calvados. *Église* may be assigned to c. 1170.

ÉTURQUERAIE, Eure. *Église* is of the XIV century.

COLOMBY-SUR-THAN, Calvados. *Église* is of the Norman period. (Benoist.)

CARQUEBUT, Manche. *Église* is in part Norman.

CONDÉ-SUR-LAIZON, Calvados. *Église* is of the end of the XII century. (Benoist.)

STE. COLOMBE, Manche. *Église.* The choir is Norman. (Benoist.)

MUTRECY, Calvados. *Église* is of the XI century.

MARCILLY, Manche. *Église* is in part Norman.

ST. VAAST, Manche. *Église.* The choir is Norman.

SURRAIN, Calvados. *Église* is of the XI century.

QUINÉVILLE, Manche. *Église.* The choir is Norman.

ST. ARNOULT, Calvados. *Chapelle* is of the XII century.

Other churches in whole or in part Norman are to be found:

In the département of Calvados, at BILLY, CESNY-BOIS-HALBOUT, CRASMENIL, LEFFARD, LOUCELLE,[1] OUILLY-LE-VICOMTE, POTIGNY, ST.-JEAN-DE-LIVET, and SOLIERS.

In the département of Eure, at ÉTREVILLE, FIQUEVILLE-ESQUAINVILLE, FORMOVILLE, HAIE-AUBRÉE,[2] HAIE-DE-ROUTOT, and REUILLY.

In the département of Seine-Inférieure at ABBETOT and MONT-AUX-MALADES.

In the département of Manche at CHÉRIS. Etc., etc., etc.

[1] Or Lucelle.

[2] Classed as a monument historique.

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SCHEME OF CLASSIFICATION

GENERAL BIBLIOGRAPHY

A. Sources
B. Bibliographies
C. General histories of architecture
D. Histories of Medieval Architecture
E. Histories of Belgian Architecture
F. Histories of French Architecture
G. Histories of German Architecture
H. Histories of Italian Architecture
I. Desultory and miscellaneous studies in architectural history
J. General histories of art
K. Civil architecture
L. Books of illustrations
M. Ornament — historical and theoretical works
N. Ornament — books of illustrations
O. Polychromy
P. Mosaic
Q. Dictionaries, encyclopedias, and works of reference
R. Archæology and iconography
S. Monastic architecture
T. Construction
U. Curves and "Refinements"
V. Criticism, philosophy, and esthetics

ROMAN BIBLIOGRAPHY

A. General Works
    Sources
    General histories
    Books of illustrations
    Ornament
    Guide books and books of reference
    Philosophic and esthetic
B. Special Works
    Historical miscellanies
    Africa
    Arabia
    Asia Minor
    Dalmatia
    England
    France
    Greece, the Ægean Islands, Macedonia

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Italy
Spain and Portugal
Syria and Palestine
Westphalia (Germany)
Aqueducts
Amphitheaters
Basilicas
Capitols and Comitia
Circular Buildings
Houses and Villas
Thermæ (Baths)
Details of Construction
Monographs of two or more places combined in one volume (classed under the countries, arranged alphabetically)

C. Monographs
(Classed by cities alphabetically under the countries, which are also in alphabetical order)

EARLY CHRISTIAN BIBLIOGRAPHY

A. General Works
Sources
Historical accounts
Books of reference
Books of illustrations
Ornament and mosaics

B. Special Works
Africa
Asia Minor
Coptic Architecture of Egypt
Italy
Palestine
Syria
Basilicas; origin and history
Circular churches
Orientation

C. Monographs
(Classed by cities alphabetically under the countries, which are also in alphabetical order)

BYZANTINE BIBLIOGRAPHY

A. General Works
Sources
Historical accounts
Ornament

B. Monographs
(Classed alphabetically by cities)

CAROLINGIAN BIBLIOGRAPHY

A. General Works
Sources
Historical accounts
Works of reference

B. Special Works

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Germany, Austria, Switzerland
Italy
Dalmatia
Special phases of architecture
Ornamental sculpture
The Comacini
C. Monographs
(Classed alphabetically by cities)

LOMBARD BIBLIOGRAPHY
A. General Works
Sources
Historical accounts
Books of illustrations
B. Special Works
C. Monographs
(Classed alphabetically by cities)

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GENERAL BIBLIOGRAPHY

A. SOURCES

Quellenschriften für Kunstgeschichte. Herausgegeben von Eitelberger von Edelberg. Wien, Wilhelm Braumüller. Various dates. — This superb series (individual volumes of which have often been referred to in our various bibliographies) makes accessible German translations of the texts of many sources for architectural history.

B. BIBLIOGRAPHIES

E. R. Smith. Architectural books: architectural classics, dictionaries, periodicals, manuals, and histories. (Architectural review, 1900–01, VII, p. 113; VIII, p. 39, 99) — A capital bibliographical study, which, while intended primarily for the practical designer, is also of great value for the student of architectural history.

Anonymous. Catalogues of the Avery Architectural Library, Library of Columbia College, New York, 1895. — The Avery Library contains upwards of 18,000 books exclusively on architectural subjects, and is probably the most serviceable collection in existence. The catalogue is hence very valuable from a bibliographical point of view. It is to be noted, however, that many additions have been made since 1895.

Russell Sturgis and H. E. Krehbiel. Annotated bibliography of fine art. Boston, The Library Bureau, 1897. 4to. — One section is devoted to architecture, and valuable because of the lack of bibliographies in this field. The annotations are usually adequate, occasionally quite misleading; the selection of books is apparently confined to those available in English.

Anonymous. Catalogue of the books relating to architecture, construction, and decoration in the public library of the city of Boston. Boston, published by the Trustees, 1894. 4to. — A catalogue of a library which contains a large number of architectural works.

Anonymous. Katalog der Bibliothek des Architekten-Vereins zu Berlin. Berlin, 1887. 8vo. — Contains valuable bibliographical information.

Karl W. Hiersemann. New series of catalogues — architecture, archæology, books of costume. Leipzig, 1893. — Much bibliographical material.

American Institute of Architects. Quarterly bulletin containing an index of literature from the publications of architectural societies and allied subjects, 1900–01. Washington. 8vo. 2 vols.

Domenico Guoli. Archivio storico dell' arte. Roma, 1889–92. 5 vols. — Contains bibliographies.

H. E. Haferkorn. Handy lists of books on fine arts and architecture. Milwaukee, H. E. Haferkorn, 1893. 8vo. — A very large list of works of all kinds, compiled, however, from a practical rather than from an antiquarian standpoint.

K. W. Hiersemann. Architecture, ornament, decoration, furniture. . . . Catalogue 108. Leipzig, Hiersemann, 1893. 12°. — A catalogue well arranged, but too incomplete to serve as a bibliography.

Anonymous. Katalog der Bibliothek herzoglicher Bau-Direction zu Braunschweig. Braunschweig, Julius Krampe, 1873. 12°. — The selection of books in this library is not particularly judicious.

Batsford. Some suggestions on the formation of a small library of reference books on ornament and the decorative arts. London, Batsford, 1897. Pamphlet. — Of slight value.

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C. GENERAL HISTORIES

Committee of the Council on Education. The universal catalogue of books on art.

Duplessis. Essai d'une bibliographie générale des beaux arts. Paris, 1866.

C. GENERAL HISTORIES OF ARCHITECTURE

Auguste Choisy. Histoire de l'architecture. Paris, Gauthier-Villars, 1899. 2 vols. 8vo. — An excellent general history, treated from the point of view of construction.

F. M. Simpson. A history of architectural development. New York and Bombay, Longmans, Green & Co., 1905. 3 vols. 8vo. — An elementary work of merit. As yet only the first volume has appeared.

Rudolf Adamy. Architektonik auf historischer und æsthetischer Grundlage. Hannover, Helwing'sche Verlagsbuchhandlung, 1883. 3 vols. 8vo. — An excellent general history, unfortunately rather old. A second edition in 4 vols. 4to., was published in 1884.

De Caumont. Cours d'antiquités monumentales. Caen, 1837–38. — A work entirely out of date in many particulars, but still of great value for its scientific spirit.

James Fergusson. The illustrated handbook of architecture. London, 1855. 2 vols. 8vo. In 1862 a third volume was published on the "History of the modern styles of architecture." In 1865 and 1867 the work was revised and published under the title, "A history of architecture in all countries from the earliest times to the present day." A third edition was edited by R. Phené Spiers (London, 1893. 5 vols. 8vo.), in which a desperate effort was made to modernize the text. I understand Dr. Kriehn has at present (1907) in hand still another revised edition to be published by Dodd, Mead & Co. Fergusson, however, is too replete with errors of fact and judgment to be worth resuscitation. Nor is it easy to see whereon the immense reputation of his work has been based, even in the past.

Henry Havard. Histoire et philosophie des styles (architecture, ameublement, décoration). Paris, Charles Schmid, 1890. 2 vols. Folio. — A work of slight scientific value, but covering a vast variety of subject-matter. The illustrations are mediocre.

Russell Sturgis. A history of architecture. — Only Vol. I (Antiquity) has appeared as yet. New York, The Baker & Taylor Co., 1906. 8vo. — The illustrations in half-tone are excellent.

A. D. F. Hamlin. A text-book of the history of architecture. London and New York, Longmans, Green & Co., 1896. — The "impression" of 1899 is much improved. This is an elementary text-book.

Fletcher and Fletcher. A history of architecture for the student, craftsman, and amateur. London, B. T. Batsford, 1896. 4th edition, 1901. — A book presenting a certain amount of dry fact (usually with tolerable accuracy) in synoptical form.

Russell Sturgis. European architecture; an historical study. London and New York, 1896. 8vo. The Macmillan Co. — Well illustrated.

A. Rosengarten. Die architektonischen Stylarten. Dritte Auflage, Braunschweig, Friedrich Viewig und Sohn, 1874. 8vo. — A mediocre work that misses many of the most important points. The book has enjoyed, however, great popularity. The first edition appeared in 1857 (Braunschweig, Friedrich Viewig und Sohn). The work has been translated into English by W. Collet Sandars under the title "A handbook of architectural styles" (London, Chapman and Hall, 1876. 8vo.). The same translation was reprinted by Chatto and Windus, London, no date.

Charles T. Mathews. The story of architecture. New York, Appleton, 1896.

Wilhelm Lübke. Geschichte der Architektur von den ältesten Zeiten bis zur Gegenwart. Leipzig, 1855: 6th edition, Leipzig, E. A. Seemann, 1884–86. 2 vols. 8vo. — A standard work; now, of course, somewhat out of date.

Wilhelm Lübke. Vorschule zum Studium der kirchlichen Kunst des deutschen Mittelalters. 6te Auflage, Leipzig, E. A. Seemann, 1873. 8vo. — A good primer of German Gothic, sketching its development through the Early Christian and Byzantine styles.

F. Kugler. Geschichte der Baukunst. Stuttgart, Ebner und Seubert, 1854–73. 5 vols. 8vo. — Of course not up to date in many directions, but in its day a dignified and important work.

Daniel Ramée. Histoire générale de l'architecture. Paris, Amyot, 1840. 2 vols. 8vo.

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Second edition, 1860–62. — One of the first general histories of architecture to be written. While a praiseworthy work in its day, it is now entirely out of date.

H. Heathcote Statham. Architecture for general readers; a short treatise on the principles and motives of architectural design, with a historical sketch. New York, Charles Scribner's Sons, 1895. 8vo. — A book of excellent plan, frequently unsatisfactory, however, in detail.

C. L. Stieglitz. Geschichte der Baukunst von frühesten Alterthume bis in neuren Zeiten. Nürnberg, 1827. Zweite Auflage, Nürnberg, J. S. Lotzbeck, 1857. 8vo. — One of the earliest serious works on architectural history — now quite out of date.

C. L. Stieglitz. Beiträge zur Geschichte der Ausbildung der Baukunst. Leipzig, Schaschmitt. 1834. 8vo. — A supplement to the first edition of the same author's "Geschichte."

A. L. Tuckerman. A short history of architecture. New York, Scribner's, 1887. 12°. — Superficial.

E. A. Freeman. History of architecture. London, 1849. 8vo. — "Valuable historically, but has no illustrations and is not consulted." (Smith.)

Smith and Slater. Architecture classic and Early Christian. London; Sampson, Low, Marston, Searle and Rivington, 1882. — A handbook covering all styles previous to the Gothic. Not recommended.

Smith and Poynter. Architecture, Gothic and Renaissance. (Art handbooks series), New York, Scribner's. — A continuation of the above. "Vague, discursive." (Sturgis.)

T. Roger Smith. Architecture Gothic and Renaissance. London, Sampson, Low, etc., 1888. — An English edition of the above.

E. Barberot. Histoire des styles d'architecture dans tous les pays depuis les temps anciens jusqu'à nos jours. Paris, Baudry & Cie., 1891. 2 vols. 4to. — Superficial.

Hope. An historical essay on architecture. London, 1838. 2 vols. 8vo. A French translation was published by Baron, Bruxelles, 1839. 2 vols. 8vo. — "This book has had some reputation, but is not of much value now." (Smith.)

H. Berghaus-Groessen. Die Baudenkmäler aller Völker der Erde. Neue Ausgabe. Brüssel, Gent, und Leipzig; Carl Muquardt, 1862. 4to. 2 vols. — A very ambitious work that is of little value to-day.

S. Sophia Beale. The amateur's guide to architecture. London, 1887.

René Ménard. Histoire de l'architecture. Paris, J. Rouam, 1884.

Camillo Boito. I principii del disegno e gli stili dell' ornamento. Secunda edizione, Milano, Ulrico Hoepli, 1882. 12°. — A good primer written from an entirely practical standpoint. It contains an annotated bibliography.

T. Talbot Bury. Rudimentary architecture. The styles of architecture of various countries. Sixth edition, London, Lockwood & Co., 1874. 12°. — Mediocre.

G. Mongeri. Gli stili architettonichi dimostrati in ordine storico. Milano, Ulrico Hoepli, 1887. Folio. — An inferior work.

C. E. Clement. An outline history of architecture. New York, 1886.

J. W. Chadwick. The evolution of architecture. Boston, 1891.

Edward J. Tarver. A guide to the study of the history of architecture. London, Pettitt & Co., 1888. 12°. — Unimportant.

C. Gurlitt. Klassiker der Baukunst. Baukunst des Mittelalters. Leipzig, 1884.

Caroline W. Horton. Architecture for general students. New York, Hurd & Houghton, 1874. 12°. — A poor general history.

Carl Busch. Die Baustile. Erster Theil, Der Schule der Baukunst. Leipzig, Otto Spanier, 1878. 12°. — Out of date.

Adolf Göller. Die Entstehung der architektonischen Stilformen: eine Geschichte der Baukunst nach dem Werden und Wandern der Formgedanken. Stuttgart, Konrad Wittwer, 1888. 8vo. — Contains many errors. No illustrations.

Carl Köhler. Lehrbuch zum Studium der Geschichte der Baukunst und der verschiedenen Baustyle. Stuttgart, Hoffmann, 1866. 4to. — Lacks clearness and is much out of date.

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D. HISTORIES OF MEDIEVAL ARCHITECTURE

C. A. Rosenthal. Uebersicht der Geschichte der Baukunst. Berlin, 1841–50. 3 vols.

J. P. N. da Silva. Noções elementares de archeologia. Lisboa, Lallemant Frères, 1878. 8vo. — A very elementary text-book of average merit.

F. Taccani. Storia dell' architettura in Europa fino al secolo XVII. Milano, Domenico Salvi e Co., 1855. 8vo. — Misleading.

Mrs. L. C. Tuthill. History of architecture from the earliest times. Philadelphia, Lindsay & Blakeston, 1848. 8vo. — Mediocre and quite out of date.

F. Taccani. Sulla storia dell' architettura . . . esame logico. Milano, Gaspare Truffi, 1844. 8vo. — Worthless.

Kreuser. Christliche Kirchenbau.

Martin A. Buckmaster. A descriptive handbook of architecture. London, George Routledge and Sons, and New York, E. P. Dutton & Co., no date. 8vo. — Of no scientific value.

Eliza Chalk. A peep into architecture. London, Bell, 1845. 18°. — Of no value.

Batissier. Histoire de l'art monumental dans l'antiquité et au moyen âge. 2me éd., Paris, 1860. 1ère éd., Paris, Furne et Cie., 1845. 4to. — In its day a valuable work. Now, of course, entirely out of date.

Anonymous. Art of building in ancient and modern times, or, Architecture illustrated. New York, Appleton, 1856. 4to and atlas. — Of little value.

G. George. Étude et mémoire sur les caractères architectoniques. (Annales de la Société Académique d'Architecture de Lyon VIII, 51; 1882–83.) — Of little interest.

Samuel Huggins. The course and current of architecture. London, John Weale, 1863. 12°. — Contains many errors. No illustrations.

John Bullock. The history and rudiments of architecture. New York, Stringer and Townsend, 1853. 12°. — Ont of date.

James Elmes. Lectures on architecture, comprising the history of the art from the earliest times to the present day. 2d edition, London, 1823. 8vo.

Anonymous. Cahiers d'instructions sur l'architecture, la sculpture, les armes, etc. . . . du moyen âge. Publiés par le comité historique des arts et monuments. Paris, Ch. Baudry, 1846. 8vo. — A history of ancient and medieval architecture in France, now entirely out of date.

[*Edward Boid*]. A concise history and analysis of all the principal styles of architecture. London, T. Cadell, 1829. 12°. — Worthless.

Ernest Breton. Monuments de tous les peuples. Bruxelles, Librairie historique-artistique, 1843. 2 vols. 4to. — Worthless.

Richard Brown. Sacred architecture: its rise, progress, and present state. London, etc., Fisher, Son & Co., 1845. — Worthless.

D. HISTORIES OF MEDIEVAL ARCHITECTURE

C. H. Moore. Development and character of Gothic architecture. New York, The Macmillan Co. Second edition rewritten and enlarged, 1904. 8vo. — The best study of the transitional and Gothic periods that has yet appeared.

G. Dehio und G. von Bezold. Die kirchliche Baukunst des Abendlandes. Stuttgart, J. G. Cotta, 1892. Text in 4to. 2 vols. Atlas in folio. 4 vols. — A splendid work, especially valuable for the plates which form the most extensive collection of illustrations of medieval architecture available.

Alois Hauser. Styl-Lehre der architektonischen Formen des Mittelalters. Wien, Alfred Holder, 1884. 2 vols. 8vo. — A satisfactory text-book, although somewhat lacking in clearness of presentation.

E. E. Viollet-le-Duc. Entretiens sur l'architecture. Paris, 1863–72. 3 vols. 4to and folio. — "Deals with . . . the various styles and periods in Viollet-le-Duc's usual comprehensive way."

De Caumont. Histoire de l'architecture religieuse du moyen âge. Paris, Derache, etc., 1841. 8vo. — One of the earliest works to treat medieval architecture in a scientific spirit. Still worthy of study.

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De Caumont. Essai sur l'architecture religieuse du moyen âge.

Reber. History of medieval architecture. Translated by J. T. Clarke, New York, 1887.

W. R. Lethaby. Medieval art from the Peace of the Church to the eve of the Renaissance, 312–1350. London and New York, Duckworth & Co., and Charles Scribner's Sons, 1904. 12°. — A mediocre account.

Edmund Sharpe. Illustrated papers on church architecture. London, 1874–76. Folio.

A. Springer. Die Baukunst des christlichen Mittelalters. Bonn, 1854.

Redtenbacher. Leitfaden zum Studium der mittelalterlichen Baukunst. 1881. Zweite Aufgabe, Leipzig, T. O. Weigel, 1888. 8vo. — Full of errors.

G. E. Street. Architecture in the thirteenth century. Afternoon lectures on literature and art, 4th series. London, 1867.

R. Willis. Remarks on the architecture of the Middle Ages. Cambridge, 1835.

D. Ramée. Le moyen âge monumental et archéologique. Paris, 1843. 4 vols. Folio.

George Moller. An essay on the origin and progress of Gothic architecture, translated from the German. London, Priestley and Weale, 1824. 8vo. — For its date a remarkably advanced book.

Franz Mertens. Die Baukunst des Mittelalters. Berlin, Carl Reimarus, 1850. 8vo. — A good study for its day; now out of date.

R. Klette. Die Entwicklungsgeschichte der Architektur. Leipzig, S. Knapp, 1881. 8vo. — Written from a German point of view and contains several errors; with these restrictions the book is a serviceable elementary history.

Kallenbach und Schmitt. Die christliche Kirchenbaukunst des Abendlandes, 1850.

Gilbert Scott. Rise and development of medieval architecture. London, John Murray, 1879. 2 vols.

Carl Möllinger. Elemente des Spitzbogenstiles. München, Emil Roller, 1847. 4to. — Of little value to-day.

Paul Lacroix. Le moyen âge et la renaissance. Histoire et description. Paris, 1851.

Paul Lacroix. Les arts au moyen âge et à l'époque de la renaissance. Paris, 1869.

T. F. A. Peyré. Manuel d'architecture religieuse au moyen âge. Paris, 1848.

René Ménard. Art du moyen âge. Paris, Librairie de l'Écho de la Sorbonne, 1872.

Félix de Verneilh. Le style ogival en Angleterre et en Normandie. (In Annales archéologiques, v. 24, p. 226, 277; v. 25, p. 33–44, 85–102.) — A study very valuable in its day (1864), but now hardly serviceable.

Félix de Vigue. Geschiedenis der middeleeuwsche Bouwkunde. Te Gent, de Busscher Frères, 1845. Folio. — Unimportant.

J. Tavenor Perry. The chronology of medieval and renaissance architecture. A date book for architectural art from the building of the ancient basilica of St. Peter's. London, John Murray, 1893. 4to. — An attempt to group together under each year all known building dates.

J. J. Bourassé. Archéologie chrétienne; ou précis de l'histoire des monuments religieux du moyen âge. 4me édition, Tours, A. Mame et Cie., 1847. 4to. — Out of date.

W. Bardwell. Temples, ancient and modern, or notes on church architecture. London, 1837.

Hall. Essay on the origin, history, and principles of Gothic architecture. London, 1819. 8vo.

A. H. Springer. Die Baukunst des christlichen Mittelalters. Bonn, 1854.

Gunn. An inquiry into the origin and influence of Gothic architecture. London, 1819. 8vo.

M. Smith. Les églises gothiques.

Richard Popplewell Pullan. Elementary lectures on Christian architecture. London Edward Stanford, 1879. 12°. — Worthless.

W. Wood. The twenty styles of architecture. London, 1881.

F. Wills. Ancient ecclesiastical architecture. New York, 1850.

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I. DESULTORY STUDIES

E. BELGIAN ARCHITECTURE

Abbé de Bruyn. Archéologie religieuse appliquée à nos monuments nationaux. Bruxelles, Victor Devaux et Cie., 1869. 8vo. — An inferior work, written from an exclusively Belgian standpoint.

F. FRENCH ARCHITECTURE

A. St. Paul. Histoire monumentale de la France. Troisième édition, Paris, Librairie Hachette et Cie., 1888. 8vo. — An excellent elementary work with, however, unsatisfactory illustrations.

Edmond Lechevallier-Chevignard. Les styles français. Paris, Quantin, 1892. — "An admirable treatise." (Sturgis.)

Henry Havard. La France artistique et monumentale. Paris, La Librairie Illustrée, Montgredian, no date. 6 vols. Folio. — "Each volume contains eight or nine monographs on an important building or group of buildings." (Sturgis.) Of slight value.

Léon Château. Histoire et caractères de l'architecture en France. Paris, A. Morel & Cie., 1864. — "A valuable book." (Sturgis.)

G. GERMAN ARCHITECTURE [1]

Rettberg. Kirchengeschichte Deutschlands.

H. ITALIAN ARCHITECTURE

W. Altmann. Die italischen Rundbauten. Berlin, Wiedmannsche Buchhandlung, 1906. 8vo.

Amico Ricci. Storia dell' architettura in Italia dal secolo IV al XVIII. Modena, pei tipi della Regio-Ducal Camera, 1857. 8vo. — Contains many errors.

Alfredo Melani. Architettura italiana. Parte pima, architettura pelasgica, etrusca, italo-greca and romana. Milano, Ulrico Hoepli, 1887. 16°. — A primer, quite out of date, especially as regards Lombard architecture, and yet, on the whole, well made.

Gally Knight. The ecclesiastical architecture of Italy from the time of Constantine to the XV century.

Charles A. Cummings. A history of architecture in Italy from the time of Constantine to the dawn of the Renaissance. Boston and New York, Houghton, Mifflin & Co., 1901. 2 vols. 8vo. — Indifferently poor throughout; for the Lombard period quite misleading.

I. DESULTORY AND MISCELLANEOUS STUDIES IN THE HISTORY OF ARCHITECTURE

G. T. Rivoira. Le origini della architettura lombarda e delle sue principali derivazioni nei paesi d'oltr' alpe. Roma, Ermanno Lœscher & Co., 1901. 2 vols. Folio. — A book of great value notwithstanding that its thesis is somewhat questionable.

J. Gaudet. Êlements et théorie de l'architecture. Cours professé à l'École Nationale et Spéciale des Beaux Arts. Paris, Librairie de la Construction Moderne, no date. 4 vols. — A work intended for practical purposes but containing a certain number of incidental historical hints.

C. E. Norton. Historical studies of church building in the Middle Ages.

Russell Sturgis. How to judge architecture. A popular guide to the appreciation of buildings. New York, Baker & Taylor Co., 8vo. — Well illustrated.

Franz Kugler. Kleine Schriften und Studien zur Kunstgeschichte. Stuttgart, Ebner & Seubert, 1853. 3 vols. — Of interest.

Theodor Seemann. Architektonische und ornamentale Formenlehre. Leipzig, Karl Schollze, 1890. 4to. — An inferior work.

Lucien Magne. Cours d'histoire générale de l'architecture. Leçon d'ouverture. École Nationale et Spéciale des Beaux Arts. Paris, Firmin, Didot et Cie., 1890. 4to. — Good, but almost too brief.

[1] See also below, p. 417.

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Edward A. Freeman. Historical and architectural sketches, chiefly Italian. London, Macmillan & Co., 1876. 12°. — Desultory sketches of travel delightfully written, but not deep from an architectural standpoint.

Arthur Symons. Studies in seven arts. New York, E. P. Dutton & Co., 1907. — Literary essays.

W. P. P. Longfellow. The column and the arch. Essays on architectural history. New York, Scribner's, 1899. 12°. — Readable essays without scientific value.

Jean François Colfs. La filiation généalogique de toutes les écoles gothiques. Paris, Baudry, 1887. 2 vols. 4to. — "Maintains that Gothic consists in a purely ornamental transformation of the component members of a building." (Moore.)

Leader Scott. The cathedral builders. Second edition, London, Sampson Low, 1899.

Prosper Mérimée. Études sur les arts au moyen âge. Nouvelle édition, Paris, Calmann Lévy, 1891. 12°. — A series of desultory essays more interesting from a literary than from an architectural standpoint.

Esther Singleton. Turrets, towers, and temples. The great buildings of the world as seen and described by famous writers. New York, Dodd, Mead & Co., 1898. 12°. — Of no scientific value.

J. A. Messmer. Ueber den Ursprung, die Entwickelung, und Bedeutung der Basilika in der christlichen Baukunst. Leipzig, 1854.

De Wiebeking. Analyse descriptive, historique et raisonnée des monuments . . . en Europe. Munich, François Wild, 1839. 5 vols. Folio. — Worthless.

Schmidt. Romanische, byzantinische und germanische Baudenkmale. 1836. 4to.

[*H. Taylor.*] Notes on sketching tours by an architect. London, B. T. Batsford, 1880. 8vo. — Of no value.

Francesco Taccani. Progetto di rettificazione della storia architettonica dal suo principio fino al secolo XVII. Milano, Tipografia Guglielinini, 1849. 4to. — Misleading.

Milizia. Memorie degli architetti antichi e moderni. Rome, 1768. 2 vols. 8vo.

J. GENERAL HISTORIES OF ART

André Michel. Histoire de l'art depuis les premiers temps chrétiens jusqu'à nos jours. Paris, Colin, 1905. 8vo. — A standard work of which only the first four volumes have yet appeared.

Alwin Schultz. Kunstgeschichte. Berlin, G. Grote, 1895–96. To be published in about thirty parts.

Wilhelm von Lübke. Grundriss der Kunstgeschichte. Stuttgart, 1860 and 1873. 8vo. — Excellent. Translated by F. E. Bennett. London, 1868. 2 vols. 8vo.

Wilhelm von Lübke. Geschichte der deutschen Kunst von den frühesten Zeiten bis zur Gegenwart. Stuttgart, Neff, 1894. — A standard work.

William H. Goodyear. A history of art. New York, A. S. Barnes & Co., 1888. — An adequate primer.

William H. Goodyear. Roman and medieval art. New York, Flood & Vincent, 1897. — A handy little text-book.

William Reymond. Histoire de l'art depuis les origines jusqu'à nos jours. Paris, Ch. Delagrave, 1890. — Partly on architecture. Too brief.

K. Frey. Magliabechianus. Berlin, 1892. — "Stellt in der Vorrede einen Leitfaden der Kunsthistoriographie in Aussicht." (Schlosser.)

E. Förster. Vorschule der Kunstgeschichte. Leipzig, 1862.

F. X. Kraus. Geschichte der christlichen Kunst. Freiburg im Breisgau, Herder'sche Verlagshandlung, 1897. 3 vols. 4to. — Considering the vast field covered, on the whole a praiseworthy effort, though the sections on architecture are full of errors and inexactitudes.

Schnaase. Geschichte der bildenden Künste. 2te Auflage, Dusseldorf, 1866–79. 8 vols.

A. Faeli. Grundriss der Geschichte der bildenden Kunst. Freiburg im B., 1887–90 4to.

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K. CIVIL ARCHITECTURE

J. F. Bourrìand. Histoire d'art chrétien des origines . . . à nos jours. (Architecture, sculpture, peinture, etc.) Paris, 1897, 2e édition. 8vo.

Louis Courajod. Leçons professées à l'école du Louvre, 1887–99. Paris, Alphonse Picard et Fils, 1899. 3 vols. — Fairly good elementary lectures, unillustrated.

L. Vitet. Études sur l'histoire de l'art. Paris, Michel Lévy Frères éditeurs, 1875. — A series of well-written essays.

Charles Bayet. Précis d'histoire de l'art. Paris, Quantin, 1894. — "Limited to 145 small pages." (Sturgis.)

N. D'Anvers. An elementary history of art, architecture, sculpture, painting. London, Sampson, Low, etc., 1882. 12°. — Attempts to cover too large a field in too brief a compass.

Félix Clément. Histoire abrégée des beaux arts. Paris, Firmin Didot et Cie., 1879. — Not important for architecture.

A. Michiels. L'architecture et la peinture en Europe depuis le IV siècle jusqu'à la fin du XVI. 3e édition, Paris, Henri Loones, 1873. 8vo. — Unillustrated essays of indifferent merit.

D'Agincourt. Storia dell' arte dimostrata coi monumenti dalla sua decadenza nel IV secolo fino al suo rinnovamento nel XVI. French translation under title 'Histoire de l'art par les monuments.' Paris, 1823.

F. C. Turner. A short history of art. London, 1886.

R. St. John Tyrwhitt. Greek and Gothic. Progress and decay in the three arts of architecture, sculpture and painting. London, 1881.

Charles S. Farrar. Art topics. History of sculpture, painting, and architecture, with specific references to most of the standard works on art. New York, Townsend, MacConn & Co., 1885. — Quite worthless.

Edmond Guillaume. L'histoire de l'art et de l'ornement. Deuxième édition, Paris, Charles Delagrave, 1888. 8vo. — A very elementary book, poorly illustrated.

R. Ménard. Histoire des beaux-arts. Paris, 1875.

J. Schnatter. Synchronistische Geschichte der bildenden Künste. Berlin, 1870.

J. G. Kinkel. Geschichte der bildenden Künste bei den christlichen Völkern. Bonn, 1845.

J. G. Kinkel. Vierundzwanzig Tafeln architektonischer Zeichnungen zu Vorträgen über die Geschichte der bildenden Künste bei den christlichen Völkern. . . . Bonn, Selbstverlag. 1844. 8vo. — Worthless.

Roger de St. Poncin. Cours sur l'art catholique.

Julia B. DeForest. Short history of art. New York, Dodd, Mead & Co. — "A popular account . . . The account of Gothic vaulting is wholly inaccurate." (Sturgis.)

M. Batissier. Histoire de l'art monumental dans l'antiquité et au moyen âge. Paris, Furne, 1845. 8vo.

Labarte. Handbook of the arts of the Middle Ages.

Nancy Bell. An elementary history of art. London, 1875. 3d edition, 1889.

George Cleghorn. Ancient and modern art. Edinburgh and London, Wm. Blackwood & Sons, 1848. — In small part on architecture; well written but hardly to be recommended to-day.

Charles Blanc. Grammaire des arts du dessin, architecture, sculpture, peinture. 3me éd. Paris, Henri Laurens, 1876. — "The works of this author are in a sense perfunctory." (Sturgis.)

J. Braun. Geschichte der Kunst. 2te Ausgabe, Wiesbaden, 1873. 2 vols.

J. S. Memes. History of sculpture, painting, and architecture. Edinburgh, 1829. Other editions, Boston, 1831; 1834.

K. CIVIL ARCHITECTURE

K. F. von Wiebeking. Architecture civile, théorique et pratique, enrichie de l'histoire descriptive des édifices anciens et modernes les plus remarquables et de leurs dessins exacts. . . . Munich, 1827–31. 7 vols. and atlas. Folio.

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K. F. von Wiebeking. Memoria sullo stato dell' architettura civile nel medio evo. Traduzione del Carlo Amati. Milano, Giacomo Pirola, 1825. 4to. — Unimportant.

L. BOOKS OF ILLUSTRATIONS

Anonymous. Le moyen âge monumental et archéologique. Paris, A. Hauser, 1842. 3 vols. Folio. — A series of fine drawings, so much the more valuable because in many cases they were made before modern restorations were executed.

M. S. Reynaud. Traité d'architecture. Paris, 1858. 2me édition, Paris, Dunod, 1863. 2 vols. Folio. — A series of miscellaneous croquis, well selected and exquisitely drawn.

Gailhabaud. Architecture du V au XVII siècle, et les arts qui en dépendent. Paris, Gide, 1858. Folio. 4 vols. and atlas. — Beautiful croquis of a somewhat miscellaneous character, with descriptive text.

Gailhabaud. Monuments anciens et modernes. Paris, 1855. 4 vols. — A book of croquis recommended for practical purposes.

J. N. S. Durand. Parallèle des édifices de tout genre. Paris, 1800. — A book of croquis recommended for practical purposes.

Jules Gailhabaud. Fragments d'architecture et d'ornamentation empruntés à toutes les époques. Paris, Ducher & Cie., no date. Folio. — A miscellaneous collection of croquis.

Studirenden der königlichen Bau-Akademie zu Berlin, 1877. Selbstverlag . . . der Studirenden. Folio. — A large collection of drawings made from second-hand materials and frequently inaccurate; valuable, however, as bringing together a very wide variety of subjects.

J. Nash. Architecture of the Middle Ages. London, Maclean, 1838. Folio. — Fine drawings of miscellaneous subjects, mostly in France.

H. G. Knight. The ecclesiastical architecture of Italy, from the time of Constantine to the Fifteenth Century. London, Bohn, 1843. 2 vols. Folio. — A series of perspective drawings de luxe.

Lange e Labriola. I principali monumenti architettonichi di tutte le civiltà antiche e moderne. Torino, Ermanno Lœscher, 1886. 8vo. — A series of notices on miscellaneous buildings of various styles, well illustrated.

John Allen Giles. Church architecture of the Middle Ages — a series of etchings by J. Coney. The descriptive account of each building is by G——. London, 1841. Folio.

Julius A. Schweinfurth. Sketches abroad. Boston, Ticknor & Co., 1888. Folio. — Mediocre drawings of miscellaneous subjects.

L. Cloquet. Les grandes cathédrales du monde catholique. Lille, Desclée, de Brouwer et Cie., 1897. 4to. — An inferior work.

Architectural Club of Boston. Sketch book. Boston, 1890. Folio. — A miscellaneous collection of drawings, some of which are of artistic merit.

R. N. Shaw. Architectural sketches from the continent. London, 1858. Folio.

Samuel Prout. Sketches at home and abroad. London, Reinell, 1844. Folio. — Miscellaneous croquis of greater artistic than archæological merit.

Pierre Chabat. Fragments d'architecture. Égypte, Grèce, Rome, moyen âge, renaissance, etc. Paris, A. Morel, 1868. Folio. — Finely drawn croquis of miscellaneous subjects, principally classical.

Samuel Read. Leaves from a sketch book, — pencillings of travel at home and abroad. London, Sampson Low, etc., 1875. Folio. — Poor drawings of miscellaneous subjects.

Chapuy. Le moyen âge pittoresque. Monumens et fragmens d'architecture, etc., du X au XVII siècle. Paris, Veith et Hauser, 1838. 5 vols. Folio. — A miscellaneous series of good engravings, accompanied by an indifferent text.

Chapuy. Italie monumentale et pittoresque; ou ses vues et ses monuments. Avec un discours sur l'histoire de l'art en Italie par Didron. Paris, Jeannin, no date. Folio. — A series of miscellaneous, but good engravings.

Anonymous. Églises principales de l'Europe. Milan, no date. — Some fine illustrations.

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G. Bourgerel. Fragments d'architecture et de sculpture. Paris, Morel, 1863. Folio. — A miscellaneous collection of large drawings mostly of antiques.

F. H. Allen. The great cathedrals of the world. Boston, Haskell & Post Co., 1886. Folio. — Poor reproductions and worse text.

T. S. Boys. Picturesque architecture in Paris, etc. London, Thomas Boys, 1839. Folio. — Colored croquis of no value.

J. B. Waring. Illustrations of architecture and ornament. London, Blackie & Son, 1871. Folio. — Croquis of moderate interest.

L. Fisenne. Kunstdenkmale des Mittelalters. Aachen, 1880–86. 3 vols.

Chapuy. Le moyen âge monumental.

M. M. Ripley. The world's workshop in stone; temple, cathedral, and mosque. Boston, Estes & Lauriat, 1880. Folio. — Quite worthless.

M. ORNAMENT: HISTORICAL AND THEORETICAL WORKS

Gustav Ebe. Die Schmuckformen der Monumentalbauten aus allen Stilepochen seit der grieschischen Antike. Leipzig, Baumgärtner, 1896. 3 vols. Folio. — Perhaps the best general history of ornament, though devoting disproportionate space to the Renaissance and modern periods.

F. Edward Hulme. The birth and development of ornament. London and New York, Macmillan's, 1893. 8vo. — Not exactly a history of ornament, but a series of very readable essays on different phases of the development of ornament.

James Ward. Historic ornament; a treatise on decorative art and architectural ornament. London, Chapman and Hall, 1897. 8vo. — A second volume deals with the minor arts. Probably as good as any book can be which attempts to cover so much ground in so small a compass.

Charles Cahier. Nouveaux mélanges d'archéologie, d'histoire et de littérature sur le moyen âge. Paris, Firmin-Didot, 1875. 4 vols. Folio. Vol. 2. La décoration d'églises. — A treatise of medieval ornament with excellent studies of the legendary subjects represented in windows, statues, etc. Many plates.

Sophiss Müller. Die Thier-Ornamentik im Norden. Archäologischen Untersuchung aus dem dänischen übersetzt von J. Mestorf. Hamburg, Meissner, 1881. 8vo.— A study of the origin of medieval ornament.

Cahier et Martin. Mélanges d'archéologie. Paris, 1847; 1856.

F. Kanitz. Katechismus der Ornamentik. Leitfäden über die Geschichte, Entwickelung und die charakteristischen Formen der Verzierungsstile aller Zeiten. Vierte Auflage, Leipzig, J. J. Weber, 1891. 12°. — A very elementary text-book.

Richard Glazier. A manual of historic ornament. Prepared for the use of students and craftsmen. Second edition, revised and enlarged, New York, Charles Scribner's Sons, 1907. — "The author's knowledge of the many subjects treated proves in almost every case sufficient." (N. Y. Post.)

Alfredo Melani. Decorazione e industrie artistiche. Volume I. Antichità e medioevo. Milano, Ulrico Hoepli, 1888. 18°. — A very rudimentary pocket text-book.

D. Guilmard. La connaissance des styles de l'ornementation — études élémentaires sur l'histoire, l'architecture et les arts industriels. Paris, Guilmard, 1849. Folio. — Very mediocre. Numerous plates, especially of the minor arts.

J. Haüselmann. Studien und Ideen über Ursprung, Wesen, und Stil des Ornaments. Zweite Auflage, Zürich und Leipzig, Orell Füssli & Co., no date. 8vo. — Mediocre.

S. Hesselbach. Vergleichende Darstellung der antiken Ornamentik mit der des Mittelalters und der neueren Zeit. Programm zum Schlusse des Schuljahres, 1848. Würzburg, Zürn, 1849. — Quite unimportant.

W. C. Collingwood. Philosophy of ornament. Eight lectures on the history of decorative art, given at the University College, Liverpool. Sunnyside, 1883. 12°.

R. P. Pullan. Remarks on church decoration. London, B. T. Batsford, 1878. 8vo. — Of no interest.

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Ralph N. Wornum. Analysis of ornament; — the characteristics of styles. 4th edition, London, Chapman and Hall, 1873. 8vo. — Superficial and inaccurate.

John P. Seddon. Progress in art and architecture with precedents for ornament. London, David Bogue, 1852. 4to. — A manual of medieval ornament, of no value to-day.

Viollet-le-Duc. De la décoration appliquée aux édifices. Paris, Pierson et Cie., no date. Folio. — Of little value.

René Ménard. La décoration au moyen âge. Paris, J. Ronam, 1884. 18°. — Of no scientific value.

N. ORNAMENT: BOOKS OF ILLUSTRATION

Owen Jones. Grammar of ornament. London, B. Quaritch, 1865. Folio. — A standard work, designed more for practical than archæological purposes.

Lewis Gruner. Specimens of ornamental art, selected from the best models of the classical epochs. London, Thomas McLean, 1850. Great folio. — Splendid croquis (many in colors) of the ornament of Italy in all epochs.

Cahier et Martin. Suite aux mélanges d'archéologie. Paris, Morel, 1868. Folio. — A great collection of colored croquis of medieval ornament.

Rudolphe Pfnor. Ornamentation usuelle de toutes les époques dans les arts industriels et en architecture. Paris, Devienne et Cie., 1866–67. Folio. — A large number of croquis (with explanatory text) designed for practical purposes.

Robert Newbery. Gleanings from ornamental art of every style. London, E. & F. N. Spon, 1868. Folio. — A collection of croquis intended, doubtless, for practical purposes.

Augustus Pugin. Gothic ornaments, selected from various ancient buildings, both in England and France. London, Bohn, 1854. — "Utilissimo per chi voglia studiare il dettaglio ornamentale dell' architettura archiacuta." (Boito.)

Méchin. Dictionnaire d'art ornemental de tous les styles. Fragments et ensembles d'architecture, de sculpture, de décoration et d'ornementation. Paris, Eugène Bigot, 1888–91. 4 vols. Folio. — A large collection of croquis, sometimes useful for reference. Intended for practical purposes.

Émile Leconte. Ornemens gothiques de toutes les époques et choix d'ornemens de la renaissance. Paris, Émile Leconte, 1839. 3 vols. Folio. — Miscellaneous croquis of some value.

W. & G. Audsley. Outlines of ornament in the leading styles. London, Sampson Low, Marston, Searle and Rivington, 1881. Folio. — Miscellaneous croquis mostly of cheaper and painted ornaments.

Léon Gaucherel. Exemples de décoration appliquées à l'architecture et à la peinture depuis l'antiquité jusqu' à nos jours. Paris, Bance, 1852. Folio. — A miscellaneous series of croquis of architecture and ornament.

J. Carot. Cours complet d'ornements d'architecture. Paris, Mourocq, no date. Folio. — A series of fine drawings mostly of Roman ornament.

King. Study book of the architecture of the Middle Ages.

Émile Leconte. Album de l'ornemaniste. Recueil composé de fragmens d'ornemens dans tous les genres et dans tous les styles. Paris, Émile Leconte, 1836. Folio. — Worthless from an historical point of view.

J. Cundall. Examples of ornament. London, Bell & Daldy, 1855. Folio. — A mediocre collection of miscellaneous croquis, some in color.

H. Dolmetsch. Der Ornamentenschatz; ein Musterbuch stilvoller Ornamente aus allen Kunstepochen. Zweite Auflage, Stuttgart, Julius Hoffman, 1889. Folio. — Croquis for practical purposes, many in color.

Daly. Motifs historiques d'architecture et de sculpture.

William Helburn. Ancient and modern ornament . . . from the best masters. New York, 1887. Folio.

Hoffmann et Kellerhoven. Recueil de dessins relatifs à l'art de la décoration chez tous les

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peuples et aux plus belles époques de leur civilisation. Paris, Lévy, 1858. Folio. — Croquis (some in color) quite useless from an historical point of view.

J. K. Colling. Art foliage for sculpture and decoration. Second edition, revised, London, B. T. Batsford, 1878. Folio. — Intended for practical purposes, but containing many croquis from almost all periods.

Anonymous. Ornamente für Architektur und Kunstindustrie nach den Gypsabgüssen des Museums [für Kunst und Industrie, von Vienna] ausgewählt. Wien, 1876. Folio.

O. POLYCHROMY

W. & G. Audsley. La peinture murale décorative dans le style du moyen âge. Paris, Firmin-Didot et Cie., 1881. Folio. — Thirty-six fine plates in color which, though intended for practical and not for archæological purposes, serve excellently to give a rough idea of medieval color decoration.

W. & G. Audsley. Polychromatic decoration as applied to buildings in the medieval styles. London, Henry Sotheran & Co., 1882. Folio. — An English edition of the same author's "La peinture murale."

A. Racinet. L'ornement polychrome. Paris, Firmin-Didot, 1869–87. 2 vols. Folio. — Superb colored croquis, classed chronologically.

Ernst Ewald. Farbige Decorationen. Berlin, Ernst Wasmuth, 1896. 2 vols. Folio. — Miscellaneous croquis.

W. Zahn. Ornamente aller klassischen Kunstepochen nach den Originalen in ihren eigenthümlichen Farben dargestellt. Berlin, 1849. Folio.

Guido Schreiber. Gemalte gothische Ornamente. Carlsruhe. — "Ornamente senza composizione, senza carattere, senza garbo." (Boito.)

P. MOSAIC

Edouard Gerspach. La mosaïque. Bibliothèque de l'enseignement des beaux-arts. Paris.

Valentin Teirich. Eingelegte Marmorornamente des Mittelalters und der Renaissance. Wien, 1875. Folio.

Wyatt. Specimens of the geometric mosaics of the Middle Ages. London, 1848. Folio.

Q. DICTIONARIES, ENCYCLOPEDIAS AND WORKS OF REFERENCE

Viollet-le-Duc. Dictionnaire raisonné de l'architecture française du XI au XVI siècle. Paris, Bance, 1854. 10 vols. and Table Analytique, 1 vol. 8vo. — A book whose immense reputation was doubtless deserved at the time it was written, but which is somewhat out of date at the present time.

Henri Sabine. Table analytique et synthétique du dictionnaire raisonné de l'architecture française du XI au XVI siècle par E. E. Viollet-le-Duc. Paris, Librairie des Imprimeries Réunies, 1889. — An index to Viollet-le-Duc's great work.

Schönermark und Stüber. Hochbau-Lexicon. Berlin, Wilhelm Ernst und Sohn, 1896. Folio. — A valuable work — of course entirely in German.

Wilhelm Spemann. Kunstlexicon; ein Handbuch für Künstler und Kunstfreunde. Berlin, 1905. 8vo.

Architectural Publication Society. The dictionary of architecture. London, 1892. 8 vols. Folio. — "Much of the work is of very high order." (Smith.)

Russell Sturgis. A dictionary of architecture and building, biographical, historical, descriptive. 3 vols. Folio. New York, Macmillan Co., 1901. — Well illustrated.

Anonymous. Dictionnaire de l'académie des beaux-arts. Paris, Firmin-Didot & Cie., 1858–96. 4to. — A work of great pretentions, but of which in 1896 only five volumes had appeared, extending from A to E. The work is of slight value.

J. Adeline. Lexique des termes d'art. Bibliothèque de l'enseignement des beaux-arts. Paris, 1884. Translated under title: Art dictionary. New York, Appleton, 1891.

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L. J. Guenebault. Dictionnaire iconographique des monuments de l'antiquité chrétienne et du moyen âge. Paris, Leleux, 1845. 2 vols. 8vo. — Of little value.

R. Willis. Architectural nomenclature of the Middle Ages. Cambridge, Deighton, etc., 1844. Folio. — A work of considerable scholarship, which may occasionally be of use even to-day.

Joseph Gwilt. Encyclopædia of architecture, historical, theoretical, and practical. Revised by Wyatt Papworth. 9th edition, New York, Longmans, 1888. 1st edition, London, 1842. 8vo. — "Contains bibliography." (Sturgis.)

Robert Stuart. Dictionary of architecture, historical, descriptive, topographical, decorative, theoretical, and mechanical. London, 1830–46; Philadelphia, 1854. 2 vols., text, 1 vol., plates. 8vo. — "A satisfactory little book for its time, but of course not very serviceable now." (Smith.)

Heinrich Otte. Archäologisches Wörterbuch zur Erklärung der in den Schriften über mittelalterliche Kunst vorkommenden Kunstausdrücke. Leipzig, T. D. Weigel, 1857. 12°. — A book useful for readers unacquainted with technical vocabularies in German and French. The work is written in three different languages — German, French, and English.

H. A. Müller. Lexikon der bildender Künste. Leipzig, 1883. 12°.

Mothes und Müller. Illustriertes archäologisches Wörterbuch. Leipzig und Berlin, 1877–78. 2 vols. 8vo.

J. W. Mollett. An illustrated dictionary of words used in art and archæology. London, 1883.

Ernest Bosc. Dictionnaire général de l'archéologie et des antiquités chez les divers peuples. Paris, Firmin-Didot et Cie., 1881. — Very incomplete.

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J. H. Parker. A glossary of terms used in Grecian, Roman, Italian, and Gothic architecture. 5th edition, enlarged, Oxford, 1850. 12°. — There are also later editions. A book that still has its value.

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L. Bergmann. Baulexicon: oder Realencyclopädie des gesammten Bauwesens. Leipzig, 1855. 8vo.

Adolphe Berty. Dictionnaire de l'architecture du moyen âge, contenant tous les termes techniques. Paris, A. Derache, 1845. 8vo. — A satisfactory work in French.

John Britton. A dictionary of the architecture and archæology of the Middle Ages. London, Longmans, 1838. 8vo. — Leaves much to be desired in clearness of definition.

A. F. Demmin. Encyclopédie des beaux-arts plastiques, architecture et mosaïque, etc. Paris, 1873. 5 vols. 8vo.

Paul Planat. Encyclopédie de l'architecture et de la construction. Paris, no date. 7 vols. 4to. — A book well known, but of secondary importance for the historian.

Henry Shaw. The encyclopædia of ornament. London, William Pickering, 1842. Folio. — A collection of croquis, not as extensive as the title would imply. The most interesting are several colored reproductions of pure ornament in stained glass.

Quatremère de Quincy. Dictionnaire historique d'architecture comprenant dans son plan les notions historiques, descriptives, archéologiques, etc., etc. Paris, 1832. 2 vols. 4to. — Of little use to the medievalist.

Rev. Thomas Dudley Fosbroke. Encyclopedia of antiquities and elements of archæology, classical and medieval. London, M. A. Nattali, 1843. 2 vols. 8vo. — Of no value.

Pietro Zani. Enciclopedia metodica, critico-ragionata delle belle arti. Parma, 1817–24. 28 vols. 8vo. — Of little use to the student of medieval architecture.

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V. CRITICISM, ETC.

R. ARCHÆOLOGY AND ICONOGRAPHY

R. P. dom Fernand Cabrol. Dictionnaire d'archéologie chrétienne et de liturgie. Paris, Letouzey et Ané, 1907. Folio. — A monumental work of which only the first two volumes (covering the letter A) have as yet appeared.

Didron. Iconographie chrétienne. Histoire de Dieu. Paris, Imprimerie Royal, 1843. 4to. Translated into English by E. J. Millington under the title "Christian Iconography," London, 1851. 12°. — A work valuable even to-day.

H. Detzel. Christliche Ikonographie. Freiburg-en-Breisgau, 1894–96. 2 vols. 8vo.

Barbier de Montault. Traité d'iconographie chrétienne. Paris, 1890. 2 vols. 8vo.

Jules Quicherat. Archéologie du moyen âge. (Revue des cours publics et des sociétés savantes de la France et de l'étranger, Vols. I–III, 1855–57, *passim.*)

Pascal. Institutions de l'art chrétien. Paris, 1858. 2 vols. 8vo.

J. Oudin. Archéologie chrétienne, religieuse, civile et militaire. Troisième édition, Bruxelles, Adolphe Wahlen et Cie., 1847. 2 vols. 8vo. and 12°. — A fairly good book for its date.

Reusens. Manuel d'archéologie chrétienne . . . à l'usage des séminaires et des établissements d'instruction. Paris, Ernest Thorin, 1890. 4to. — A fairly good handbook. In no sense, however, an important work.

Grimoüard de St. Laurent. Manuel de l'art chrétien. Paris, Oudin Frères, 1878. 4to. — Contains much inconography.

S. MONASTIC ARCHITECTURE

Lenoir. Architecture monastique. — A standard work.

Montalembert. Les moines d'Occident.

T. CONSTRUCTION

G. Ungewitter. Lehrbuch der gotischen Konstruktionen neu bearbeitet, dritte Auflage, von K. Mohrmann. Leipzig, T. D. Weigel, 1884. 4to. — An excellent text-book on construction, considered largely from a practical and technical standpoint.

G. Dehio. Untersuchungen über das gleichseitige Dreieck als Norm gotischer Bauproportionen. Stuttgart, 1894.

Alfonse Gosset. Les coupoles d'Orient et d'Occident. Paris, Lévy, 1889. Folio. — The drawings, showing the construction of domes of all periods and styles, are valuable.

U. CURVES AND "REFINEMENTS"

William H. Goodyear. Illustrated catalogue of photographs and surveys of architectural refinements in medieval buildings. Edinburgh, 1905. — Contains bibliography.

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William H. Goodyear. Vertical curves and other architectural refinements in the Gothic cathedrals and in the early Byzantine churches of Constantinople. New York, 1904. (Brooklyn Institute of Arts and Sciences. Museum Memoirs, Vol. 1, No. 4.) — With plans and photographs.

William H. Goodyear. Medieval architectural refinements. Yale Alumni Weekly. Jan. 6, 1904.

P. W. Forchhammer. Ueber Reinheit der Baukunst auf Grund des Ursprungs der vier Haupt-Baustyle. Hamburg; Perthes, Besser und Mauke; 1856. Pamphlet. — Unimportant.

V. CRITICISM, PHILOSOPHY, ÆSTHETICS

William Morris. Gothic architecture. London, 1893. 18vo. — A stimulating little essay.

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John Ruskin. Seven lamps of architecture. — "Transcendental estheticism" abounding in all manner of errors of fact and judgment, and yet of undeniable value.

John Ruskin. Stones of Venice. — See above.

John Ruskin. Lectures on architecture and painting.

Gottfried Semper. Der Stil in den technischen und tektonischen Künsten, oder, Praktische Æsthetik. München, 1878. 2 vols. 8vo. — A philosophical treatise characteristically German.

Laurence Harvey. Semper's theory of evolution in architectural ornament. (Royal Institute of British Architects, Transactions, Vol. 51, 1885, p. 29.) — A synopsis of Semper.

Hippolyte Adolphe Taine. La philosophie de l'art, etc. Translated by John Durand as, Lectures on Art. New York, Holt.

Georg Humann. Zur Beurtheilung mittelalterlicher Kunstwerke in Bezug auf ihre zeitliche und örtliche Entstehung. (In Repertorium für Kunstwissenschaft, Vol. 25, 1902, pp. 9–40.)

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W. R. Lethaby. Architecture, mysticism, and myth. New York, Macmillan, 1892. — Philosophical; bears but slightly on Gothic architecture.

C. F. von Wiebeking. Von dem Einfluss, den die Untersuchung und beurtheilende Beschreibung der Baudenkmale . . . haben. Muenchen, George Jacquet, 1834. Folio. — Worthless.

A. Welby Pugin. Contrasts, or a parallel between the noble edifices of the Middle Ages and corresponding buildings of the present day.

H. N. Humphreys. Ten centuries of art. London, Grant & Griffith, 1852. — Criticism, not especially illuminating.

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ROMAN BIBLIOGRAPHY

A. GENERAL: BOOKS COVERING MORE OR LESS THE ENTIRE FIELD.

SOURCES [1]

Berlin-Akademie der Wissenschaften. Corpus inscriptionum Latinarum. Berolini, 1863–1905. 2nd edition, Berolini, 1893. Folio. Supplementa Italica concilio et auctoritate Academiæ Regiæ Lynceorum, edita Romæ, 1884. Folio. Ephemeris epigraphica, corporis inscriptionum Latinarum supplementum. Ed. Insituto di Corrispondenza Archeologica, Romæ, 1872–98. 4to. — In this monumental series, practically the entire body of Roman inscriptions is made accessible. "Le tome XII par Hirschfeld a recueilli les inscriptions de la Gaule Narbonnaise. Il contient une bibliographie complète indiquant à peu près tout ce qui a été publié sur les antiquités romaines de la région."

L. Renier. Inscriptions de l'Algérie.

Andrea Palladio. Architecture in ten books. Translated from the Italian by James Leoni with notes by Inigo Jones. 1742. Folio. — Palladio's drawings are notoriously inaccurate, but still serve to give a general idea of many buildings which have since been destroyed in whole or in part. I have never seen the original Italian editions of this work.

Guiliano Giamberti Sangallo. — "A series of drawings ably executed in 1465 are now to be seen in the Barberini Library." (Hemans). — These drawings are very valuable for the restoration of buildings now destroyed in whole or in part, though they pretend to be little more than sketches.

Serlio. Libro straordinario. — Preserves sketches of buildings now destroyed in whole or in part,

GENERAL HISTORIES

Anderson and Spiers. The architecture of Greece and Rome. A sketch of its historic development. London, B. T. Batsford, and New York, Charles Scribner's Sons, 1903. 4to. — The best general history of Roman architecture. A revised edition containing much new material appeared in 1907.

Josef Durm. Die Baukunst der Etrusker und der Römer. Darmstadt, 1885. 4to. (In Handbuch der Architektur.) — A good, but very technical account.

Prof. G. Aitchison. Lectures on Roman architecture delivered to the students of the Royal Academy during 1889. (Published in the "Builder" of the year.)

Hauser. Styllehre der Architect. Formen des Altertums. 1882.

William H. Goodyear. Roman and medieval art. New York, Flood & Vincent, 1897. — A handy text-book.

Ludwig von Sybel. Weltgeschichte der Kunst bis zur Erbauung der Sophienkirche. Marburg, N. G. Elwert, 1888. — An excellent elementary work, in part on architecture.

Franz von Reber. History of ancient art. Translated and augmented by. J. T. Clarke.

[1] *Classic Authors.* Next to inscriptions, the most authentic sources for dating monuments, and for learning of their purpose and construction, are the chance references to buildings scattered through the various classic authors. It is unnecessary to quote in detail the list of such writers, since editions of any of the Roman authors are everywhere available. Possibly the most important for the study of architecture are Vitruvius and Pliny.

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F. T. Kugler. Geschichte der orientalischen und antiken Baukunst. Stuttgart, 1859.

J. Dewœle. Grieksche en romeinsche bouwkunst. Ghent, no date. 4to. In French and Dutch. — An unpretending summary.

Jules Martha. Manuel d'archéologie étrusque et romaine. Bibliothèque de l'enseignement des beaux-arts. Paris, A. Quantin, 1884. 8vo. — In part on architecture. An account almost too brief.

J. B. Lesueur. Histoire et théorie de l'architecture. Paris, Firmin-Didot et Cie, 1879. 4to. — A study of the orders, containing numerous errors.

René Ménard. Art antique. Paris. Libraire de l'Echo de la Sorbonne, 1870.

Iginio Gentile. Arte etrusca e romana. 2a edizione, Milano, Ulrico Hoepli, 1892. 24°. — A very brief primer of the art history of Rome, dealing in part with architecture.

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Pietro Selvatico. Le arti del disegno in Italia. Storia e critica. Milano, Francesco Vallardi, no date. 4to. — Unreliable.

Pietro Selvatico. Storia estetico-critica delle arti del disegno. Lezioni dette nella I. R. Accademia di Belle Arti in Venezia. Venezia, Pietro Naratovich, 1856. 2 vols. 8vo. — Far inferior to the same author's "Arti del disegno."

G. L. Stieglitz. Archæologie der Baukunst der Griechen und Römer. Weimar, Im Verlage des Industrie-Comptoirs, 1801. — Out of date.

W. H. Davenport Adams. Temples, tombs, and monuments of ancient Greece and Rome. London, T. Nelson & Co., 1871. 12°. — Unpretending account.

Henrici Kippingi. Antiquitatum Romanarum libri quatuor. Franequeræ, Leonardi Strick, 1695. — No illustrations. The work is of some interest as a curiosity.

BOOKS OF ILLUSTRATIONS

D'Espouy. Fragments d'architecture antique, d'après les relevés et restaurations des anciens pensionnaires de l'Académie de France à Rome. Paris, 1896. Folio. — A collection of superb rendered drawings.

Sergius Andrejewitsch Iwanoff. Architektonische Studien. Mit Erläuterungen von August Mau. Berlin, In Commission bei Georg Reimer, 1895. — A series of fine measured sketches and drawings of some of the more important Roman monuments. The text is in Russian and German.

Anonymous. Antiquité et Renaissance italienne. Grèce, Pompéi, Rome, etc. Par des élèves de l'École de Rome. Paris, Ducher & Cie., no date. — A series of photographs of beautiful rendered drawings, more correct from an artistic than from an archæological point of view.

J. Buehlmann. The architecture of classical antiquity and of the Renaissance. Berlin, Bruno Hessling, no date. — A convenient series of measured drawings. A translation of the German edition published in Stuttgart, 1872–77.

Kaiserlich Deutsches Archäologisches Institut. Antike Denkmäler. — A series of fine reproductions of various ancient statues and buildings, selected apparently by hazard.

Constantin Uhde. Die Architekturformen des klassischen Alterthums. Berlin, Bruno Hessling, no date. — An excellent series of drawings.

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Barbault. Recueil de divers monumens anciens, pour servir de suite aux "Monumens de Rome." Rome, Bouchard & Gravier, 1770. Folio. — A series of fair engravings.

Luigi Rossini. L'antichità romane divise in cento tavole. Roma, 1819–23. Folio. No title-page or text. — Grand views in the style of Piranesi.

Gio. Battista Cipriani. Monumenti di fabbriche antiche estratti dai disegni dei più celebri autori. Roma, 1796. 4 vols. 4 to. — A rather large collection of mediocre engravings of ancient buildings. The restorations and details are of course not to be trusted.

A. Hirt. Die Baukunst nach den Grundsätzen der Alten. Berlin, In der Realschulbuchhandlung, 1809. — Contains useful line drawings.

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S. du Perac. I vestigi dell' antichità di Roma. Roma, Vaccheria, 1575–1653. Folio. — Well-known engravings of some value.

Jacques Audrouet du Cerceau. Livre des édifices antiques romains. 1584. Folio.

ORNAMENT

James Cromar Watt. Examples of Greek and Pompeian decorative work. London, B. T. Batsford, 1897. — Very fine drawings.

C. Moreau. Fragmens et ornemens d'architecture dessinés à Rome d'après l'antique. Paris, 1800. Folio.

Alois Riegl. Stilfragen. Grundlegungen zu einer Geschichte der Ornamentik. Berlin, Georg Siemanns, 1893. 8vo. — A dignified study of ancient and Arabian ornament.

C. H. Tatham. Etchings representing fragments of antique Grecian and Roman architectural ornament, chiefly collected in Italy before the late revolutions in that country, and drawn from the originals. London, Thomas Gardiner, 1806. Folio. — Many drawings of details, some of interest. This work has been republished, London, J. B. Nichols & Son, 1843. Folio.

C. H. Tatham. Etchings representing the best examples of ancient ornamental architecture drawn from the originals in Rome and other parts of Italy during the years 1794, 1795, and 1796. Third edition, London, Thomas Gardiner, 1810. Folio. Republished by J. B. Nichols & Son, 1843. Folio. — These drawings are still valuable.

Louis Vulliamy. Examples of ornamental sculpture in architecture. London, Louis Vulliamy, [1824.] Folio. — Good drawings of details. The majority of the subjects are Roman.

Gustav Kachel. Kunstgewerbliche Vorbilder aus dem Alterthum. 2te Auflage, Karlsruhe, Beelefield, 1881. Folio. — A series of mediocre croquis.

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Ponce. Arabesques antiques des Bains de Livie et de la Ville Adrienne avec les plafonds de la Ville Madame. Paris, Bance Aîné, no date. Folio. — Inaccurate engravings.

René Ménard. La décoration à Rome. Paris, J. Ronam, 1884. 18°. — Of no scientific value.

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William P. P. Longfellow. A cyclopædia of works of architecture in Italy, Greece, and the Levant. New York, Scribner's, 1895. — A work which contains some errors, but which makes accessible much unusual information.

E. Ruggiero. Dizionario epigrafico di antichità romane. Roma, L. Pasqualucci, 1906. In course of publication.

Guide Joanne. — This excellent series of guide books which covers practically the whole

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of Europe is valuable for reference, besides being an indispensable *vade mecum* for the tourist.

Murray's guides for the shores of the Mediterranean, Northern and Southern Italy, Spain, France, England, etc., are for the most part full and accurate.

Baedeker's guides for Northern, Central, and Southern Italy, for Syria and Palestine, for Southern and Northern France, for Greece, for Austria, for Spain and Portugal, and for England are too well known to require more than reference. They are constantly kept up to date by new editions.

Touring Club de France. A la France. — Sites et monuments. Paris, 1902. 4to. — A popular guide, covering, in a series of 43 thin but well illustrated volumes, the whole of France, Tunis, and Algeria.

Theo. Schreiber. Atlas of classical antiquities edited for English use by W. C. F. Anderson. London and New York, Macmillan & Co., 1895. 4to. — A dictionary of antiquities with poor engravings. Of little use to the architectural student.

Thomas Dempster. Corpus antiquitatum Romanarum. Paris, 1612. — "In 10 books this Scottish savant goes through a wide range of Rome's antiquities — city, people, gods, priests, temples, altars, magistrates, public spectacles, laws, and customs — the usual encyclopedic aim of the learned of that period." (Hemans.)

Grævius et Gronovius. Thesaurus antiquitatum. — 13 double column folios of an encyclopedic nature, written in the XVIII century.

PHILOSOPHIC AND ESTHETIC

Jean Schöpfer. Roman art. (In Architectural Record, 1906, vol. 19, p. 443 seq.) — A very brief and sane criticism.

Louis Le Brun. Théorie de l'architecture grecque and romaine, déduite de l'analyse des monuments antiques. Paris, 1807. — Contains some mediocre drawings.

Wilhelm Wackernagel. Oeffentlicher Vortrag gehalten zu Basel im Namen der Antiquar-Gesellschaft, am 27. October 1849. Basel, Schweighauser, 1851. 2te Auflage, 1851.

Guhl and Korner. Life of the ancient Greeks and Romans.

Labaco. Libro dell' architettura. [Early XVI century.] — "Valuable."

Cellarino. Notitiæ orbis antiqui.

Scamozzi. Discourses on antiquity. [XVI century.]

Diego de Sagredo. De l'architecture antique, etc. Traduit d'espagnol en françois. Paris, Devise Cavellat, 1608. — Interesting as a curiosity.

B. BOOKS LIMITED TO CERTAIN ASPECTS OF THE FIELD

HISTORICAL MISCELLANIES

J. I. Hittorf. Mémoire sur Pompéi et Pétra. Paris, 1866. 4to. — A very valuable and important paper in which it is attempted to restore the monuments of Petra, Pozzuoli, etc., from the Pompeian wall paintings.

G. Baldwin Brown. Origin of Roman imperial architecture. Sessional Paper, R. I. B. A., 1899.

G. Baldwin Brown. Origin of Roman imperial architecture. (In Royal Institute of British Architects, Transactions, N. S., 1889, vol. 5.)

Russell Sturgis. Classical architecture on the shores of the Mediterranean. Rochester, Cutler Mfg. Co. — A breezy pamphlet of 15 pages.

Ernesti Pierolti. On Jewish and Roman architecture in Palestine, from the earliest period to the time of the Crusades. (In Royal Institute of British Architects, Papers, 1861–62, p. 149 seq.)

Orazio Comes. Illustrazioni delle piante rappresentate nei dipinti pompeiani. Napoli, Francesco Giannini, 1879. Folio. — No illustrations.

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B. SPECIAL WORKS

Alexandre de Laborde. Les monuments de France classés chronologiquement. Paris, 1816. Folio.

Carl Schultess. Bauten des Kaisers Hadrian. Hamburg, A. G. Richter, 1898. 8vo. Pamphlet. — Of little scientific value.

C. A. Böttigeis. Kleine Schriften archäologischen und antiquarischen Inhalts gesammelt und herausgegeben von Julius Sillig. Dresden und Leipzig, Arnoldisch Buchhandlung, 1838. 3 vols. 12°. — A series of desultory essays on classical subjects, containing very little about architecture.

Achille Gennerelli. La moneta primitiva, e i monumenti dell' Italia antica messi in rapporto chronologico e ravvicinati alle opere d'arte delle altre nazioni civili dell' anticchità. (In Academia Romana di Archeologia, Dissertazioni, 1852, vol. 11.)

I. and J. Taylor. Rudiments of ancient architecture. London, 1794. — A small but very typical XVIII century handbook on the orders.

Walter Amelung. Disjecta membra. (In Zeitschrift für bildende Kunst, 1902, N. F., vol. 13, pp. 150–56.)

Joseph Wilpert. Un capitolo di storia del vestiario; tre studii sul vestiario dei tempi poscostantiniani. (L'Arte, vol. 1, pp. 89–120.)

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Amable Ravoisié. Exploration scientifique de l'Algérie pendant 1840–42. Paris, Firmin-Didot et Cie., 1846–53. 3 vols. Folio. — The plates of this work are invaluable.

Amable Ravoisié. L'Algérie monumentale. Paris, Firmin-Didot et Cie., 1878. Folio. — This work (which unfortunately has not come into my hands) is said to be of great value.

Ad. H. Al. Delamare. Exploration scientifique de l'Algérie. Archéologie. Paris, Imprimerie Nationale, 1850. Folio. — Many good drawings.

Schulten. Archäologische Neuigkeiten aus Nordafrika. (In Jahrbuch des kaiserlich deutschen archäologischen Instituts, Anzeiger.) — For each year an excellent summary of the progress of excavations.

Mathuissieulx. Publication des découvertes importantes en Tripoli. (Archives des missions scientifiques, 1904.)

Henri Saladin. Rapport sur la mission faite en Tunisie de Novembre, 1882, à Avril, 1883. (In Archives des missions scientifiques, 1887, vol. 28, pp. 1–225.) — An important publication which, however, unfortunately leaves much to be desired.

Henri Saladin. Rapport sur la mission accomplie en Tunisie . . . 1885. (In Nouvelles archives des missions scientifiques et littéraires, 1892, vol. 2, p. 377 seq.) — Important, but not altogether satisfying.

Henri Saladin. Description de la régence de Tunis. — 1er fascicule. Rapport sur la mission de 1882–3. Paris, Barbier, 1887.

Henri Saladin. Notes sur un voyage archéologique en Tunisie. (Lamta, El Djem, Sousse.) (In L'ami des monuments et des arts, 1887, vol. 1, p. 24 seq., p. 95 seq.) — An inadequate description, being a resumé of the report in the Archives des missions scientifiques, q. v.

Anonymous. Recherche des antiquités dans le nord de l'Afrique. Conseils aux archéologues et aux voyageurs. Paris, Ernest Leroux, 1890. 8vo. — In the lack of books dealing with Roman architecture in Africa, the scraps of information here contained become valuable.

R. L. Playfair. Travels on the footsteps of Bruce. London, 1877.

Alexander Graham. Remains of the Roman occupation of North Africa, with special reference to Tunisia. (In Royal Institute of British Architects, Transactions, 1886, New Series, vol. 2.) — Very disappointing and yet the best description of certain ruins that has yet appeared.

Beechey. North coast of Africa. London, 1828. 4to.

[1] The titles of several works of importance on the classical remains of Africa will be found in the Addenda to this volume. See also Boeswillwald's "Timgad," quoted below.

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N. Davis. Ruined cities within Numidian and Carthagenian territories. London, John Murray, 1862. — A very lengthy but not entirely satisfactory description.

Alexander Graham. Roman Africa. An outline of the history of the Roman occupation of North Africa based chiefly upon inscriptions and monumental remains in that country. London, New York, and Bombay, Longmans, Green & Co., 1902. 8vo.

Héron de Villefosse. Rapport sur une mission archéologique en Algérie. (In Archives des missions scientifiques, 1875, vol. 17, p. 377 seq.) — Almost entirely on epigraphy, but some precious scraps of architectural information are included.

Berbrugger. Voyages dans le sud de l'Algérie et les États Barberesques de l'ouest et de l'est, par Al-Aliaci-Moula-Almed, traduits. 1846. In Exploration scientifique de l'Algérie.

Caussade. Notice sur les traces de l'occupation romaine dans la province d'Alger. (In Société archéologique et historique de l'Orléanais, Mémoires, 1851, vol. 1, p. 234 seq.)

Louis Piesse. Le routier archéologique de l'Algérie. (In Revue de l'art chrétien, vol. 21, pp. 324–44; vol. 28, pp. 5–46, 286–307.) — A list of monuments, with brief annotations.

D'Hérisson. Relation d'une mission archéologique en Tunisie. Paris, Société Anonyme, 1881. 4to. — An insufficient publication of Bouchater.

R. L. V. Cagnat. Rapport sur une mission scientifique en Tunisie. (In Archives des missions scientifiques, 1882–88, vol. 24, 26, 27, 29.) — Very little information about architecture.

M. Schaw. Voyage dans plusieurs provinces de la Barberie et du Levant . . . traduit de l'anglais. La Haye, Neaulue, 1743. 2 vols. 4to.

W. Ragot. Recueil des notices et mémoires de la Société Archéologique du département de Constantine, 1874, vol. 16, p. 201 seq.; 1882, vol. 22, p. 334 seq.

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H. V. Guérin. Voyage archéologique dans la régence de Tunis exécuté . . . sous les auspices . . . de H. d'Albert, duc de Luynes. Paris, 1863. 2 vols. 8vo.

V. A. Malte-Brun. Itinéraire historique et archéologique de Philippeville à Constantine. Paris, Arthur Bertand, 1858. 8vo. — Very disappointing.

Azéma de Montgravier. Observations sur les antiquités romaines de la Province d'Oran et en particulier sur les ruines de Tiaret. Extrait du Spectateur Militaire, cahier de Sept., 1843. [Paris?]. — Little or no information.

Graham and Ashbee. Travels in Tunisia. London, Dulan & Co., 1887. 4to. With bibliography. — Little about architecture.

Alexander Graham. Roman remains of monumental buildings in Algeria. (In Royal Institute of British Architects, Proceedings, 1885, New Ser., vol. 1, p. 211 seq.) — Of no value.

ARABIA.

R. E. Brünnow und A. V. Damaszewski. Die Provincia Arabia. Auf Grund zweier in den Jahren 1897 und 1898 unternommenen Reisen beschrieben. Strassburg, Trübner, 1905. 2 vols. 4to.

ASIA MINOR

Texier and Pullan. Principal ruins of Asia Minor. London, Day & Son, 1865. — The measured drawings are very valuable.

Newton and Pullan. A history of discoveries at Halicarnassus, Cnidus, and Branchidæ. London, Day & Son, 1863. — An important work.

C. T. Newton. On recent researches at Budrum (Halicarnassus), Branchidæ, and Cnidus. (In Royal Society of Literature of the United Kingdom, Transactions, 1859, 2nd ser., vol. 6, pp. 448–502.)

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Newton. Travels and discoveries in the Levant. London, 1865.

Perrot et Guillaume. Exploration archéologique de la Galatie et de la Bithynie, d'une partie de la Mysie, de la Phrygie, de la Cappadoce, et du Pont. Paris, 1872.

Benndorf und Niemann. Reisen in Lykien und Karien. Wien, Carl Gerold's Sohn, 1884. — A great volume de luxe, disappointing from an architectural standpoint.

Prokesch-Osten. Denkwürdigkeiten und Erinnerungen aus dem Orient, herausgegeben von E. Münch. Stuttgart, 1863–67. — Well known.

Fellows. Journal written during an excursion in Asia Minor. 1839. — A famous work.

Cramer. A historical and topographical description of Asia Minor. Oxford, 1832.

Michaud et Poujoulat. Correspondence d'Orient, 1830–31. Paris, 1833.

Richter. Wallfahrten im Morgenlande. Berlin, 1828.

Raczynsky. Malerische Reise in einigen Provinzen des Osmanischen Reichs aus dem Polnischen übersetzt von Fr. H. von der Hagen. Breslau, 1828.

Olivier. Voyage dans l'Empire Othoman. Paris, 1804.

Pococke. Description of the East. London, 1745. — Well known.

Tournefort. Relation d'un voyage du Levant. Amsterdam, 1718.

DALMATIA

T. S. Jackson. Dalmatia, the Quarnero, and Istria. Oxford, Clarendon Press, 1882. 3 vols. 8vo. — While this work is of value chiefly for the study of the later periods, it also contains some description of the classical remains in the country.

ENGLAND

John Corbet Anderson. Shropshire: its early history and antiquities. London, Willis & Lutheran, 1844. 4to. — Contains brief notices of the Roman monuments of the county.

Thomas Wright. Wanderings of an antiquary upon the traces of the Romans in Britain. London, 1854. 12°.

John Strange. Account of some remains of Roman and other antiquities in Monmouthshire. (In Archæologia, 1779, vol. 5, p. 33 et seq.)

John Britton. Architectural antiquities of Great Britain. 1807–26.

Rev. William Harris. Observations on the Julia Strata and on the Roman stations . . . in the counties of Monmouth, Brecknock, Cærmarthen, and Glamorgan. (In Archæologia, vol. 2, p. 1 seq.)

FRANCE

Baudot et Dabot. Archives de la Commission des Monuments Historiques publiées sous le patronage de l'Administration des Beaux-Arts. Paris, Laurens, 1855–70. 5 vols. Folio. — A monumental work with fine drawings, dealing chiefly, however, with the medieval period.

Cornelius Gurlitt. Die Baukunst Frankreichs. Dresden, Gilbers'sche Verlagsbuchhandlung, 1900. 2 vols. Folio. — Superb plates in photogravure, a few of which are devoted to the classical monuments of France.

M. H. Labande. Notice sur les dessins des antiquités de la France méridionale, exécutés par Pierre Mignard et sur leur publication, projetée par le comte de Caylus. (Revue du Midi, 1900, vol. 28.)

Perrot. Lettres sur Nismes et le Midi. Nîmes, Chez l'auteur, 1840. 8vo. — A good book for its "popular and prolix type."

S. Beale. Roman and Romanesque France. (In American Architect and Building News, 1902–04, vol. 76–80.)

Grangent, Durand, et Durant. Description des monuments antiques du midi de la France.

Pownall. Notice and descriptions of antiquities of the Provincia Romana of Gaul, now Provence, Languedoc, and Dauphiné. London, John Nichols, 1778. — The day of usefulness for this book has passed. The engravings are poor.

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Piganiol de la Force. Description historique et géographique de la France.

E. Germer Durand. Dictionnaire topographique du département du Gard.

Ernest Desjardins. Géographie de la Gaule romaine.

Millin. Voyages dans les départements du midi de la France.

Millin. Antiquités nationales.

Joseph Woods. Letters of an architect from France, Italy, and Greece. London, John & Arthur Arch, 1829. — Illustrated with mediocre engravings.

Mérimée. Notes d'un voyage dans le midi de la France.

Abbé Longuerne. Description historique et géographique de la France ancienne et moderne.

Nodier, Taylor, et Cailleux. Voyages dans l'ancienne France. 1825.

Ch. Leuthéric. La Grèce et l'Orient en Provence.

Ch. Leuthéric. Les villes mortes du golfe de Lyon.

Zeiller. Topographia Galliæ. Francfort-sur-le-Mein. 4 vols. Folio. Le Tome IV, les dictionnaires géographiques de Thomas Corneille, de Bruzen, de la Martinière, d'Expilly.

Dom Vaissette. Historie du Lanquedoc. Paris, 1730. Folio.

Honoré Bouclée. La chronographie, ou description de la Provence et l'histoire chronologique du même pays. Aix, 1664. Folio.

Iodocus Sincerus. Itinerium Galliæ.

Paul Merula (Van Merle). Cosmographiæ generalis libri tres, item cosmographiæ particularis libri quatuor quibus Europa in genere, speciatim Hispania, Gallia, describuntur. — Cum tabulis, etc. Amsterdam, apud Guilielmum Blaeu, 1686. 12°. — "La première édition date de 1605 et est in 4to." (Peyre.)

GREECE, THE ÆGEAN ISLANDS, MACEDONIA

Stuart and Revett. Antiquities of Athens measured and delineated. London, T. Bensley for J. Taylor, 1762–1815. 4 vols. Folio. — This monumental work is of great value to-day, although the beautiful drawings are occasionally inaccurate, and many buildings were misunderstood at the time it was published. Dealing chiefly with Greek monuments, the plates still contain not a few reproductions of Roman antiquities. The work has been supplemented by the following publications:

C. R. Cockerell, T. L. Donaldson, et als. Supplement to Stuart and Revett's "Antiquities of Athens." London, 1830. — A publication as valuable as the original Stuart and Revett.

Society of Dilettanti. The unedited antiquities of Attica, comprising the architectural remains of Eleusis, Rhamnus, Sunium, and Thoricus. 2d edition, London, Priestly and Weale, 1833.

R. Chandler and Revett. The antiquities of Ionia. Published in four parts at different times. 1769–1881. Part I was republished in improved form in 1812, Part II in 1840. London, Macmillan & Co. — A companion work to the Antiquities of Athens.

Society of Dilettanti. The unedited antiquities of Magna Græcia. London, 1817. Folio.

Stuart and Revett. Die Alterthümer zu Athen. Leipzig und Darmstadt, Carl Wilhelm Leske, no date. 4 vols. — The plates of this German edition are smaller than in the original.

L. F. F. Paris. Les antiquités d'Athènes de Stuart et Revett. Paris, Firmin-Didot et Cie., 1808. 4 vols. — In this French edition the plates are still smaller and decidedly inferior.

J. F. Nolan. Les antiquités d'Athènes et autres monuments grecs d'après les mesures de Stuart et Revett. Paris, Andot Libraire, 1835. — A pocket edition, but the plates are surprisingly clear.

Heuzey et Daumet. Mission archéologique de Macedoine. Paris, Firmin-Didot et Cie., 1876. 2 vols. Folio. — An adequate publication of not very important discoveries.

Conze. Reise auf der Insel Lesbos. Hanover, 1865.

Choiseul-Gouffier. Voyage pittoresque en Grèce. Paris, 1782–1809.

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B. SPECIAL WORKS

ITALY

Vincenzo de Castro. L'Italia monumentale; o, Galleria delle principali fabbriche antiche e moderne d'Italia. 2a edizione, Milano, 1870. Folio.

G. T. von Hoffweiler. Sicilien. Leipzig, Alphons Dürr, 1870. — A description of the island containing some account of the antiquities.

Fiorelli. Sulle scoverte archeologiche fatte in Italia dal 1846 al 1866. Relazione al Ministro dell' Istruzione Pubblica. Napoli, Ghio, 1867. 8vo.

Robert Burn. Rome and the Campagna. Cambridge and London, Bell & Daldy, 1871. 4to. — A work of great learning, but a little diffuse and not up-to-date.

L. Canina. L'antica Etruria marittima. Rome, 1846–49. 2 vols. Folio.

[*Paolini*]. Memorie sui monumenti di antichità e di belle arti chi esitono in Misenio, in Bocoli, in Baja, in Cuma, etc., etc. . . . Napoli, 1812.

Winckelmann. Recueil de lettres sur les découvertes faites à Herculanum, à Pompée, à Stabie, etc. Traduit par Jansen. Paris, 1784. 8vo. — A translation from the Italian. There is a German translation under the title: Briefe an seine Freunde. Dresden, 1777–80.

Montfaucon. Diarium Italicum. [1707]. — "Vividly worked up." (Hemans.) "Contained earliest printed edition of the Graphia." (Nicols.)

Carlo Labruzzi. Via Appia illustrata ab urbe Roma ad Capuam. London, no date. Folio. — A series of old-fashioned woodcuts of very large size.

Ciriaco of Ancona. Latin itinerary. [c. 1424–33]. — "The first Italian traveller who made . . . antiques a primary object."

Flavio Biondo. Italia illustrata.

Leandro Alberti. Description of all Italy, its cities, monuments, mountains, lakes, rivers, fountains, baths, mines, and all the marvellous works of nature here produced.

G. Dennis. Cities and cemeteries of Etruria. 1878. 2 vols. 8vo.

P. M. Corradini. Vetus Latium profanum et sacrum. Romæ, 1704–05. 10 vols. 4to. Vols. 3–10 were written by G. R. Volpi and bear the title "Vetus Latium profanum."

Nodot. Nouveaux mémoires. Amsterdam, François l'Honoré, 1706. 24°. — A book of travel in Italy — quite without value to-day.

Mabillon. Iter Italicum. [c. 1700.]

Athanasius Kircher. Latium; id est nova et parallela Latii tam veteris tam novi descriptio. Amstelodami, 1671. Folio.

SPAIN AND PORTUGAL

Comision Especial, creada por el Ministerio de Fomento. Monumentos arquitectónicos de España. Madrid, 1859–81. 13 vols. Folio. — A superb work but almost entirely on medieval and Renaissance monuments.

Junghändel. Die Baukunst Spaniens in ihren hervorragendsten Werken. Text von E. Gurlitt. Dresden, 1891–93. 2 vols. Folio. Nachtrag von Pedro de Madrago. Dresden, 1898. — A splendid work but unfortunately only a small part is devoted to the Roman monuments.

Constantine Uhde. Baudenkmäler in Spanien und Portugal. Berlin, Ernest Wasmuth, 1892. Folio. — A fine work but again almost entirely on medieval and Renaissance monuments.

Villa-Amil. España artistica y monumental: vistas y descripcion de los sitios y monumentos mas notables de España. Paris, 1842–50. 3 vols. Folio.

José Caveda. Geschichte der Baukunst in Spanien aus dem Spanischen übersetzt von P. Heyse. Stuttgart, 1858. 8vo.

Taylor. Voyage pittoresque en Espagne et en Portugal et sur la côte d'Afrique de Tanger à Tétouan. Paris, 1832. 3 vols. 4to.

Bernard Smith. Sketches in Spain. London, 1883. Folio.

Laborde. Voyage pittoresque et historique de l'Espagne. Paris, 1806–20. 4 vols. Folio.

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David Roberts. Picturesque sketches in Spain. London, 1837. Folio.
Roberts. [Ansichten von Spanien.] London, 1835–38. 4 vols. 8vo.

SYRIA AND PALESTINE

Howard Crosby Butler. Architecture and other arts. Part II of the publications of the American Archæological Expedition to Syria in 1899–1900. New York, Century Co., 1903. Folio. — An invaluable publication. I understand that Mr. Butler has in preparation another work dealing with the results of the Second American Expedition to Syria.

Melchior de Vogüé. La Syrie centrale: — Architecture civile et religieuse. Paris, Noblet et Baudry, 1865. 2 vols. Folio. — This work is of the greatest value, and until the publication of Mr. Butler's work, was the standard authority on the monuments of Syria.

L. F. Cassas. Voyage pittoresque de la Syrie, de la Phœnicie, de la Palestine, et de la Basse Égypte. Paris, 1799. 3 vols. Folio. — A work containing superb engravings. It is of value for historical rather than for architectural students.

C. R. Conder. The survey of Eastern Palestine. The 'Adwân country. (Palestine exploration fund.) London, 1889. — Valuable for some account of the ruins of 'Ammân (Philadelphia).

Conder and Kitchener. The survey of Western Palestine. Memoirs of the topography . . . and archæology. (Palestine exploration fund.) London, 1881–83. 3 vols.

Warren and Conder. The survey of Western Palestine. Jerusalem and London, 1884.

Baedeker's *Palestine and Syria.* Fourth edition, 1906, remodeled and augmented. New York, Charles Scribner's Sons.

Libbey and Hoskins. The Jordan Valley and Petra. New York and London, Putnam's, 1905. 2 vols.

WESTPHALIA (GERMANY)

Wilhelm Dorow. Die Denkmäler germanischer und römischer Zeit in den Rheinisch-Westfälischen Provinzen. Berlin, Schlessinger, 1826. 2 vols. 4to. — Poor.

AQUEDUCTS

Belgrand. Les acqueducs romains, 1878.

Weber. Wasserleitungen in kleinasiatischen Städten. (Jahrbuch des kaiserlich deutschen archäologischen Instituts, 1904, vol. 19, p. 86; 1905, vol. 20, p. 202.) — A noteworthy study.

AMPHITHEATERS

Francesco Alvino. Anfiteatro campano illustrato e restaurato. 3a edizione col paragone di tutti gli anfiteatri d'Italia ed un cenno sugli antichi monumenti di Capua. Napoli, 1842. Folio.

BASILICAS

H. Wurz. Zur Charakteristik der klassischen Basilika. Kunstgeschichte des Auslandes, H. 40. Strassburg, Heitz, 1906. 8vo.

F. von Quast. Die Basilika der Alten, mit besonderer Rücksicht auf diejenige Form derselben, welche der christlichen Kirche zum Vorbilde diente. Berlin, Ernest und Korn, 1845. 8vo. Pamphlet. — A readable sketch.

CAPITOLS AND COMITIA

Maxime Collignon. Le Capitole romain. (In Revue de l'Art, 1904, vol. 16, pp. 269–278.)

Kuhfeldt. De capitoliis imperii Romani. 1883.

Ditlefsen. De Comitio Romano. (In Annali dell' Instituto, 1860.)

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B. SPECIAL WORKS

L. B. Suphau. De capitolio Romano commentarii specimen. Halis Saxonum, 1846. 8vo. Pamphlet. — A doctor's dissertation in Latin, of little value to-day.

CIRCULAR BUILDINGS

Isabelle. Édifices circulaires. — Well known.

HOUSES AND VILLAS

L. Clifflot. Étude sur l'habitation antique. (Le Musée, Revue d'art antique II, 1905, p. 209.)

L. de Beylié. L'habitation byzantine. Paris, Ernest Leroux, 1902. Folio. — The first chapter gives an adequate account of the Roman house.

Rubensohn. Aus griechisch-römischen Häusern des Fayum. (Jahrbuch des kaiserlich deutschen archäologischen Instituts XX, 1905, p. 1.) — An important article.

Thomas Moule. An essay on the Roman villas of the Augustan age . . . and on the remains of Roman domestic edifices discovered in Great Britain. London, Longman, etc., 1833. 8vo. — A good little book for its date.

A. D. F. Hamlin. Ancient Roman country houses. (In House and Garden, 1903, vol. 3, p. 1 seq.) — "Popular."

A. D. F. Hamlin. The Roman country house. (In Architectural Review, 1896, vol. 4, p. 10 seq.)

J. L. Ussing. Indbrydelsesskrift til Kjøbenhaous Universetets Fets. Oom Graekernes og Romernes Huse med saerligt Heusyn til Benaeonelsen for de Enkelte Rum. Kjøbenhaun, 1876.

Scheult. Maisons de campagne de Rome.

J. Bouchet. La laurentine maison de campagne de Pline, le consul. Paris, 1852.

C. G. Zumpt. Über die bauliche Einrichtung des römischen Wohnhauses. Berlin, Dümmler, 1844. 8vo. Pamphlet. 2te Auflage, 1852. — Out of date.

THERMÆ (BATHS)

Prof. G. Aitchison. The Roman thermæ. (Sessional Paper, R. I. B. A. Transactions, N. S., 1889, vol. 5 p. 105.)

Palladio. Le terme dei Romani . . . ripublicate con lagiunta di alcune osservazioni da O. B. Scamozzi. Vicenza, 1785. Folio. Republished under title: Les thermes des Romains d'après l'édition de Londres faite en 1730 par le Comte de Burlington sur les dessins originaux de l'auteur. . . . Paris, 1838. Folio. There are also other editions. — Palladios drawings, though very inaccurate, are sometimes valuable in the study of buildings since destroyed.

C. Cameron. Baths of the Romans with restorations of Palladio. 1775. Folio.

Andrea Bacci. De thermis libri VII. Venetiis, Valgrisino, 1571. Folio. — Worthless.

DETAILS OF CONSTRUCTION

A. Choisy. L'art de bâtir chez les Romains. Paris, 1873. Folio. — An excellent work on the technique of Roman construction and the only one covering this important field. There is an English translation by A. J. Dillon (in the Brickbuilder, 1894–97, vols. 3–6.)

Pennethorne and Robinson. Geometry and optics of ancient architecture, illustrated by examples from Thebes, Greece, and Rome. London and Edinburgh, Williams & Norgate, 1878. Folio. — A monumental work, but less valuable for Roman than for Greek architecture.

L. E. Smith. Roman fresco architecture. (In American Architect and Building News, 1904, vol. 83.)

W. H. Leeds. Outlines and characteristics of different architectural styles. (Quarterly papers on architecture, 1844, vol. 2.) — An indifferent account of the classic orders without illustrations.

Bruno Schultz. Bogenfries und Giebelreihe in der römischen Baukunst. (Jahrbuch des kaiserlich deutschen archäologischen Instituts XXI, 1906, p. 221.) — An adequate study.

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J. M. von Manch. Die architektonischen Ordnungen der Griechen und Römer. Durch neue Taf. verm. Aufl. nach dem Text von L. Lohde neu bearbeitet von R. Boormann. Berlin, W. Ernest und Sohn, 1896–1906. 4to.

J. H. Parker. De variis structurarum generibus. Romæ, Bonarum Artium, 1868. 8vo. — A Latin treatise on Roman masonry.

MONOGRAPHS ON TWO OR MORE PLACES COMBINED IN ONE VOLUME

AFRICA

S. Gsell. Satafis (Périgotville) et Thamalla (Tocqueville). (In Mélanges d'archéologie et d'histoire, 1895, vol. 5, p. 33.) — A slight publication of slight remains.

AOSTA

Edouard Aubert. La Vallée d'Aoste. Paris, Amyot, 1860. Folio. — A book of travel with fair engravings.

Edouardo Berard. Antiquités romaines et du moyen âge dans la Vallée d'Aoste. (In Società di archeologia e belle arti per la provincia di Torino, Atti, vol. 3, p. 119 seq.)

KENT (ENGLAND)

C. R. Smith. Antiquities of Richborough, Reculver, and Lymme, in Kent, illustrated by F. W. Fairholt. London, 1850. 8vo.

ENGLAND

W. T. Watkin. Roman Cheshire, or a description of Roman remains in the county of Chester. Liverpool, 1886. 4to.

Samuel Lysons. Account of the remains of several Roman buildings and other Roman antiquities discovered in the County of Gloucester. (In Archæologia, vol. 18, p. 112 seq.)

Rev. A. C. Smith. Guide to the British and Roman antiquities of the north of Wiltshire downs in 100 square miles around Abury. [Dwizes], 1884. Folio.

NAPLES, MAGNA GRAECIA, ETC.

R. F. Günther. The submerged Greek and Roman foreshore near Naples. (In Archæologia, 1903, vol. 58, p. 499 seq.) — An important publication.

W. Wilkins. Antiquities of Magna Graecia. Cambridge, University Press, 1807. — For its date an excellent work. The engravings are fine.

Piranesi. Antiquités de la Grande Grèce . . . Antiquités de Pompeïa. Paris, 1807–19. 4 vols. Folio.

Filippo Morghen. Le antichità di Pozzuoli, Baja, e Cuma. 1769. Folio.

Anonymous. Raccolta degli antichi monumenti esistenti fra Pozzuolo, Cuma, e Baja, luoghi nel regno di Napoli. Roma, Presso Agrapilo Franzetti al Corso, no date. — A collection of poor and small engravings.

POMPEII AND HERCULANEUM

Friedrich Furchheim. Bibliographia di Pompei, Erculano, e Stabia. 2a edizione riveduta e ammentata, Napoli, Furchheim, 1891. — Contains the titles of many works on Pompeii and Herculaneum, all, of course, older than 1891. Few articles in periodicals are included.

Ernest Breton. Pompéia décrite et dessinée suivie d'une notice sur Herculanum. Paris, — 3me édition, L. Guérin et Cie., 1869; 1er éd., Gide et Baudry, 1855. — A work combining many bad, with some good features. The engravings are fairly accurate.

Henry Wilkins. Suite de vues pittoresques des ruines de Pompéii, etc. Rome, 1819. (Sans indication d'éditeur). Folio. — "Ouvrage bien exécuté."

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C. MONOGRAPHS

Ernest Beulé. Le drame du Vésuve. 2me éd., Paris, Michel Lévy Frères, 1872. 12°. 1ère éd., 1871. 8vo.

Stanislas d'Aloe. Les ruines de Pompéi. Suivies d'une excursion . . . à Herculanum, etc. Naples, 1873. 8vo. 1st edition, 1851. German translation, Berlin, 1857.

Enrico Schulz. Ragguaglio delle principali escavazioni operate ultimamente nel regno di Napoli. Roma, 1842. 8vo.

Ménard. Les villes du Vésuve. Bibliothèque populaire des écoles de dessin. Paris, Jules Ronam, 1885. — A child's primer. Unimportant.

W. H. Davenport Adams. Pompeii and Herculaneum: their history, their destruction, and remains. New edition, London, Nelson, 1881. 8vo. The 1st edition was published in 1868 under the title: The buried cities of Campania. — Of no value to the serious student.

G. B. Finati. Manuel pour Herculanum, Pompéi, et Stabie, etc. Naples, Virgilio, 1844. 8vo.

Claudius. Pompéi et Herculanum. Paris, Renouard, 1840. 16°.

Keerl. Über die Ruinen Herculanums und Pompeji's. Gotha, Ettinger, 1791. 8vo.

PROVENCE AND THE RHONE

Roger Peyre. Nîmes, Arles, Orange, St. Rémy. Paris, Librairie Renouard, 1904. 8vo. Paper. — "Les villes d'art célèbres" series. — An inexpensive but excellent resumé with bibliography.

David Macgibbon. The architecture of Provence and the Riviera. Edinburgh, David Douglas, 1888. 8vo.

Hippolyte Bazin. Plans de Vienne et Lyon gallo-romains, d'après les monuments antiques, les ruines, et les comptes-rendus de fouilles. (In Bulletin archéologique du comité des travaux historiques et scientifiques, 1891, p. 319 seq.)

ROME AND POMPEII

G. Boissier. Rome and Pompeii. Translated by D. H. Fisher. 1896. 8vo.

G. Boissier. Promenades archéologiques: Rome et Pompeii. 4th ed., Paris, 1891. 12°.

SICILY

Anonymous. Raccolta degli monumenti esistenti fra Gigenti, Segeste, e Selinunte. Roma, Nella calcografia di Agrapilo Franzetti al Corso, no date. — A collection of small and poor engravings.

SYRIA

Wood. Ruins of Palmyra and Baalbec. London, William Pickering, 1827. Folio. — The drawings are still valuable. This is a very famous work, although unfortunately frequently inaccurate.

Rev. William Wright. Account of Palmyra and Zenobia with travels and adventures in Bashan and the desert. London, 1895. 8vo.

C. MONOGRAPHS

AFRICA

ALEXANDRIA

T. D. Néroutsos. L'ancienne Alexandrie — étude archéologique et topographique. Paris, 1888. 4to.

J. S. H. Kiepert. Zur Topographie des alten Alexandria, nach Mahmud Beg's Entdeckungen bearbeitet. Berlin, 1872. 8vo.

BATNA

L. Domergue. La région de Batna. Batna, 1890.

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BULLA REGIA

A. Merlin. Des fouilles à Bulla Regia. (Académie des inscriptions et belles-lettres, Comptes-rendus, 1906, p. 217.)

CARTHAGE

A. Audollent. Carthage romaine. 146 avant Jésus-Christ — 698 après Jésus-Christ. (Bibliothèque des écoles françaises d'Athènes et de Rome, fasc. 84.) Paris, A. Fontemoing, 1905. 8vo.

E. de Sainte-Marie. Mission à Carthage. Paris, Ernest Leroux, 1884. Folio. — An adequate account.

E. Cagnat. Le Capitole et le Temple de Junon Céleste à Carthage. (Rev. Arch. XXIV, 1894, p. 188 seq.)

C. E. Beulé. Fouilles à Carthage. Paris, 1861.

L. Bertrand. Les villes africaines. 3. Constantine, Carthage. (Revue des deux mondes, 1905, 5e période, tome 27.)

CHERCHELL

L. Bertrand. Les villes africaines. 1. Cherchell. (Revue des deux mondes, 1904, 5e période, tome 27, p. 660.)

DOUGGA

A. Merlin. Les fouilles de Dougga en 1902. (Nouvelles archives des missions scientifiques et littéraires II, 1903, p. 1.)

L. Poinssot. Les fouilles de Dougga en Avril-Mai, 1903. (Nouvelles Archives des missions scientifiques et littéraires II, 1904, p. 403.)

Carton. Une campagne de fouilles à Dougga. Lille, 1894. 8vo. (Bulletin de la Société de Géographie de Lille, Mai-Juin, 1894.)

HAMMAM D'IHRA

Charles Norman. Une ville antique inédite. Aquae Calidae Colonia ou Hammam d'Ihra. (In L'ami des monuments et des arts, 1889–1900, vols. 13–14.) — An unsatisfactory publication.

HENCHIR MAÂTRIA [NUMBULI]

Carton et Denis. Numbuli (Henchir-Maâtria) et son capitole. (Bull arch. du Comité, 1893, p. 73 seq.)

KUBR ROUMEÏA

A. Berbrugger. Le tombeau de la chrétienne. Alger, 1867. — A monograph on the Kubr Roumeïa.

SOUK-EL-ARBA

M. D. Carton. Essai de topographie archéologique sur la région de Souk-el-Arba. (In Bulletin archéologique du comité des travaux historiques et scientifiques, 1891, p. 207 seq.)

THÉVESTE

P. Castel. Tébessa. Histoire et description d'un territoire algérien. Paris, H. Paulin et Cie., 1905.

Letronne. Sur l'arc de triomphe de Théveste dans la province de Constantine. (In Revue archéologique, 1847, vol. 7, p. 360 seq.)

TIMGAD

Boeswillwald, Cagnat, Ballu. Timgad. Une cité africaine. Paris, Ernest Leroux, 1905. Folio. — A superb monograph.

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C. MONOGRAPHS

H. Holtzinger. Timgad und die römische Provinzialarchitektur in Nordafrika. (Die Baukunst, hrsg. v. Bomann und Graul, 3 Serie, Heft 1.) Stuttgart, Spemann, 1906. 4to.

H. Ballu. Les ruines de Timgad. 1892. — A new edition was published in 1903.

Am. Milvoy. Ville romaine de Thamagas. (Discours de réception à la Société des antiquaires de Picardie.) Amiens, 1890.

H. Pensa. Une ville romaine nouvellement découverte. (Nouvelle revue, 1889, p. 808 seq.)

ENGLAND

APETHORPE

Edward Trollope. The Roman house at Apethorpe. (In Associated architectural societies, Reports and papers, vol. 5.) — Tedious and unimportant.

BATH.

Rev. H. M. Scarth. Aquae solis; or, Notices of Roman bath. London, Simpkin Marshall & Co., 1864. 4to. — Little about architecture.

BIGNOR

Samuel Lysons. An account of the remains of a Roman villa at Bignor. London, T. Bensley, 1820. 12°. — Unimportant.

Rev. Thomas Dubarry. Roman mosaic pavements at Bignor. (In Sussex archæological society, Collections, vol. 30, p. 63 seq.)

CAERLEON

J. E. Lee. Roman remains lately found at Caerleon. (In Archæologia Cambrensis, 1849, Ser. I, vol. 4, p. 73 seq.) Published in pamphlet form, London, J. R. Smith, 1850. — Publication of unimportant remains.

CAERWENT

Ashby and Martin. Excavations at Caerwent, Monmouthshire, 1899. (In Archæologia, 1901, p. 295; 1902, p. 120; 1903, p. 391; 1905, p. 289; 1906, p. 111.) — For each year a report on the progress of the excavations.

CIRCENCESTER

Buckman and Newmarch. Illustrations of the remains of Roman art in Circencester, etc. London, 1850. Folio. — An adequate publication, a little old-fashioned.

T. P. Baily. History and antiquities of the town of Circencester in the county of Gloucester. Circencester, 1842.

T. P. Baily. Handbook for Circencester. Circencester, Baily, [1842 ?]. — Some account of the antiquities.

CLAUVILLE

Rev. G. H. Engelheart. On some buildings of the Romano-British period discovered at Clauville, etc. (Archæologia, 1898, vol. 56[1], pp. 1–20.) — An account of unimportant discoveries.

COLCHESTER

George Buckler. Colchester castle; a Roman building. Colchester, 1877. 8vo.

Rev. Henry Jenkins. Colchester castle. London, 1853. 8vo. 2nd edition, 1861.

T. K. Cromwell. History and description of the ancient town and borough of Colchester in Essex. London, 1825. 2 vols. 8vo.

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DORCHESTER

James Savage. History of Dorchester during the British, Roman, Saxon, and Norman periods with an account of its present state. Dorchester, 1833. 12°.

FARLEY

Sir Richard Cold Hoare. Roman bath at Farley in Wiltshire. (In Gentleman's Magazine for February, 1823.)

GARIANORUM

John Ives. Remarks upon the Garianorum of the Romans, the site and remains fixed and described. 2nd ed., Yarmouth, 1803. 8vo.

LONDON

Charles Roach Smith. Illustrations of Roman London. London, Printed for the subscribers, 1859. 4to. — An exhaustive account of Roman antiquities discovered in London prior to the date of publication.

NEWCASTLE

John Clayton. The temple of the goddess Coventina. Newcastle on Tyne, A. Reid, 1878. — Unimportant.

MORTON

Price and Price. Remains of Roman buildings at Morton, Isle of Wight. (In Royal Institute of British Architects, Transactions, 1880–81.) — Adequate publication.

NORTHLEIGH

H[enry] H[akewill]. Account of the Roman villa discovered at Northleigh, Oxfordshire in . . . 1813–16. London, 1826. Folio.

PICT'S WALL[1]

Rev. J. C. Bruce. The Roman Wall. London, 1851. 8vo.

PORCHESTER

Rev. C. H. Hartshorne. On the history and architecture of Porchester castle. (In Archæological Institute of Great Britain and Ireland, Proceedings at the annual meeting at Winchester, 1846.)

RUTUPINA

Rev. John Batteley. Antiquitates Rutupinæ, opus posthumum. Oxoniæ, [T. Terry], 1711. 8vo.

SILCHESTER

Rev. J. G. Joyce. On the excavations at Silchester. (In Archæologia, vol. 40[1], 46[1]). — An entirely adequate publication of the first excavations, though Mr. Joyce has misunderstood the plan of the basilica.

F. S. H. Price. Further notes upon excavations at Silchester. (In Archæologia, vol. 50, pp. 263–280.)

W. H. St. J. Hope and George E. Fox. Excavations on the site of the Roman city at Silchester, Hants. (Archæologia, 1890, p. 733; 1892, p. 263; 1893, p. 539; 1894, p. 199; 1895, p. 439; 1896, p. 215; 1897, p. 409; 1898, p. 103; 1899, p. 229; 1900, p. 87; 1901, p. 229; 1902, p. 17; 1903, p. 413; 1905, p. 333; 1906, p. 149.) — For each year a report on the progress of the excavations.

[1] See also Gibbon, *Decline and Fall of the Roman Empire*, Chap. I, p. 220.

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C. MONOGRAPHS

SPOONLEY WOOD

J. H. Middleton. On a Roman villa in Spoonley Wood, Gloucestershire, and on Romano-British houses generally. (In Archæologia, vol. 52², p. 651 seq.) — A good article.

WOODCHESTER

Samuel Lysons. An account of Roman antiquities discovered at Woodchester. London, Cadell & Davies, etc., 1797. Folio. — A great volume de luxe with colored plates.

WROXETER

J. Corbet Anderson. The Roman city of Uriconium at Wroxeter, Salop. London, J. Russell Smith, 1867. 12°. — Contains an account of the Roman remains.

YORK

Joseph Halfpenny. Fragmenta vetusta, or the remains of ancient buildings in York, drawn and etched. York, 1807. Folio.

FRANCE, ETC.

ALISE

Héron de Villefosse. L'emplacement du théâtre romain d'Alise. (Académie des incriptions et belles-lettres, Comptes-rendus, 1906, p. 253.)

Seymour de Ricci. Des fouilles exécutées à Alise. (Académie des inscriptions et belles-lettres, Comptes-rendus, 1906, p. 264.)

Anonymous. Pro Alesia. Revue mensuelle des fouilles d'Alise et des questions relatives à Alesia. 1ère année, 1906.

ALLEAUME

Abbé Adam. Notice historique sur la chapelle de Notre-Dame de la Victoire. Valognes, E. Martin, 1891.

De Gerville. Monuments romains d'Alleaume. Valognes, 1844.

ARLES

Louis Jacquemin. Monographie du théâtre antique d'Arles. Arles, 1862–63. 2 vols. 8vo. — Very prolix and not at all to the point from an architectural standpoint. No illustrations.

AUBIGNÉ

Robert Charles. Le théâtre antique d'Aubigné, et la ville de Roches à Sceaux. Mamers, 1877. 12°.

BESANÇON

A. Castan. Besançon et ses environs. 2me édition abrégée, Besançon, Morel, 1887. 18°. — Excellent.

A. Castan. Le Capitole de Vesontio et les capitoles provinciaux du monde romain, 1869.

J. J. Chifflet. Vesontio civitas imperialis libera. Sequanorum metropolis. . . . Lugduni, 1618. 2 vols. 8vo.

BOURGES

Albert des Méloizes. Notes archéologiques sur les fouilles faites à Bourges en 1884–85. (In Société des antiquaires du centre, Mémoires, 1885, vol. 13, p. 109 seq.)

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CHAMPLIEU

Achille Peigué-Delacourt. Le théâtre de Champlieu. (In Société académique d'archéologie du département de l'Oise, Mémoires, vol. 3, p. 558 seq.; vol. 4, p. 375 seq.) — A resumé of the famous controversy as to whether the ruins of Champlieu are Roman or Merovingian.

DREVANT.

Gustave Mallard. Le théâtre de Drevant. (Bulletin archéologique, 1906, p. 43.)

FRÉJUS

Victor Petit. Esquisses des monuments romains de Fréjus. (In Bulletin monumental, vol. 30, pp. 569–612, 681–704, 761–794; vol. 31, pp. 209–248.) — Very disappointing.

Gerardin. L'histoire de la ville et de l'église de Fréjus. 1729. — "Simple et vrai." (Petit.)

LILLEBONNE

M. F. Rever. Mémoires sur les ruines de Lillebonne. Rouen, Frère, 1822. 8vo.

LYON

T. Pierrot Deseilligny. L'amphithéâtre de Lyon. (In Bulletin monumental, 1887, 6me série, vol. 3, p. 415 seq.) — An adequate report, though disproportionate space is devoted to a summary of disproved theories, and there is no discussion of the date of the monument.

Steyert. Nouvelle histoire de Lyon et des provinces du Lyonnais, Forez, Beaujolais, Franc-Lyonnais et Dombes. Lyon, Bernoux et Cumin, 1895–99. 3 vols. 8vo. Tome I. Antiquité.

Domenique de Colonia. Antiquités de la ville de Lyon, ou explication de ses plus anciens monumens. Lyons, 1733.

NÎMES

Hippolyte Bazin. Nîmes gallo-romain. (Peyre.)

Deyron. Antiquités de Nîmes. Grenoble, 1656. 4to. 2me édition très augmentée, Nîmes, 1663. — Important as containing a description of the second château d'eau of Nîmes, all trace of which has now disappeared.

Auguste Pelet. Essai sur le Nymphée de Nîmes. Nîmes, 1852. 8vo. — A publication of certain inscriptions which give some slight indications for dating the monument.

Révoil. Rapport sur les fouilles de l'amphithéâtre de Nîmes.

Clérisseau. Antiquités de Nîmes. 1776 and 1806. 2 vols. Folio.

Dom Vaissette. Éclaircissements sur les antiquités de la ville de Nîmes.

Jacobus Grasserus. De antiquitatibus Nemausensebris dessertatio. Ad usum peregrinantium. Lyon, 1617. 12°. — "Ouvrage réuni en général à l'Itinerarium Galliae de Jodocus Sincerus." (Peyre.)

Albinas. Discours historial de l'antique et illustre cité de Nîmes en la Gaule Narbonnaise avec les portraits des plus antiques bastiments du dit lieu réduitz à leur vraye mesure et proportion: ensemble de l'antique et moderne ville. Lyon, Guillaume Roville, 1560.

ORANGE

A. N. Caristie. Monuments antiques à Orange, France. Paris, 1856–57. Folio. — Excellent measured drawings.

C. de Fourcaud. A propos du théâtre antique d'Orange. (Musées et monuments de France, 1906, p. 76.)

A. N. Caristie. Notice sur l'état actuel de l'arc d'Orange, et les théâtres antiques d'Orange et d'Arles. [Paris, 1839.] 4to. — A project of restoration.

J. Masqueray. De Monte Aurasio. Paris, 1886.

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C. MONOGRAPHS

PARIS

Charles Normand. Les arènes de Lutèce. Paris, aux bureaux de l'Ami des Arts, [c. 1900]. — An adequate publication with bibliography.

Maurice du Seigneur. Rapport au sujet des fouilles. Bulletin municipal officiel de la ville de Paris, 1884–86. — "Notices précisant la conduite suivie dans les derniers travaux" [sur les arènes de Lutèce à Paris]. (Normand.)

Ruprich-Robert. Les arènes de l'antique Lutèce — rapport fait à la Société centrale des architectes français dans la première réunion du congrès (1873). — "C'est le travail le plus sérieux sur la moitié des arènes découverte en 1870; par suite des fouilles nouvelles, le livre très incomplet n'a plus qu'un intérêt documentaire." (Normand.)

Stanislas Ferrand. Les arènes de la rue Monge et les mortiers romains. 1870. 12°.

Aimé d'Alizon. Les arènes de la rue Monge. Paris, Lacroix, 1870.

Henri Martin. L'amphithéâtre romain à Paris. (Siècle, 7 avril, 1870 — 6 Juin, 1870.)

Charles Read. Un amphithéâtre gallo-romain à Paris. (In Les Débats, 12 avril, 1870.)

Timothée Trumer. Le cirque romain découvert à Paris. (Petit Moniteur, 13 avril, 1870.)

Vicomte Pontou d'Amécourt. Rapport au ministre de l'instruction publique au nom de la société française de numismatique. (L'international, 28 mai, 1870. 4 columns.)

Henri Chabrillat. Les arènes de Paris. (Figaro, 14 avril, 1870. Courte note complémentaire dans le n° du 15 avril, 1870. Le Soir, 12 avril, 1870.)

L. de Thalarieu. Les fouilles des arènes de Paris.

Jollois. Mémoires sur les antiquités romaines et gallo-romaines de Paris. Publiés dans les "Mémoires présentés par divers savants à l'Académie des Inscriptions et Belles Lettres." 1843.

POITIERS

Duffand. Notice sur les aqueducs romains de Poitiers. (In Société des antiquaires de l'ouest, Mémoires, 1855, vol. 21, p. 55 seq.) — A report on the practicability of using the old aqueducts for modern water supply, containing many scattered crumbs of information, valuable in the lack of any better publication.

Léon Babinet. Poitiers, place forte, les anciens remparts, portes et ponts, château. (In J. C. Robuchon, Paysages et monuments du Poitou, 1890, vol. 1, p. 122 seq.)

Bourgnon de Layre. L'amphithéâtre ou les arènes de Poitiers. (In Société des antiquaires de l'ouest, Mémoires, 1844, vol. 10, p. 137 seq.)

Maugon de Lalande. Les arènes de Poitiers. (In Société des antiquaires de l'ouest, Mémoires, 1838, vol. 3, p. 124 seq.)

PUY-DE-DÔME

J. B. Bouillet. Rapport sur les monumens de Puy-de-Dôme. (In Bulletin Monumental, Vol. 4, pp. 473–500.) — Very meager information.

REIMS

I. Taylor. Reims, la ville des sacres. . . . Paris, 1860. 4to.

Prosper Tarbé et J. J. Maquart. Reims, essais historiques sur ses rues et ses monuments. Reims, Quentin-Dailly, 1844. Folio. — Mediocre.

F. Rothier. Guide de la ville de Reims. Reims, F. Rothier, no date. — Inaccurate and worthless.

Nicolas Carbon. Dissertation sur les arcs de triomphe de la ville de Reims. Reims, Regnault Florentain, 1739, 12°.

SAINTES

[*Antoine Bourricaud*]. Association pour l'avancement des sciences, session de 1882; excursion archéologique à Saintes. Saintes, 1882. 8vo.

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TRIER AND IGEL

Christoph Hawich. Abbildung des römischen Monuments in Igel. Trier, 1826. Folio. — Good drawings.

H. Zumpft. Das römische Denkmal in Igel und seine Bildwerke. Coblenz, Karl Baedeker, 1829. 4to. — Fairly good drawings.

Christian Wilhelm Schmidt. Baudenkmäler der römischen Periode und des Mittelalters in Trier und seiner Umgebung. Trier, Lintz, 1836. Folio. — Fine drawings; but the book contains many inaccuracies.

M. F. Müller. Litteratur-Anzeiger über die in Trier bestehenden und zerstörten Bauten aus der ältesten und mittleren Zeit. Trier, 1840.

Carl Friedrich Quednow. Beschreibung der Alterthümer in Trier. Trier, Wittwe Leistenschneider, [1820]. 8vo. — Some of the drawings are still useful.

G. Schneemann. Das römische Trier und die Umgegend. Trier, Fr. Lintz, 1852. 12°. — Out of date.

ST. DIZIER

Grignon. Bultin des fouilles . . . d'une ville romaine sur la petite montagne du châtelet entre St. Dizier et Joinville en Champagne. Bar-le-Duc, Christophe, 1774. 12°. — As far as I know, the only publication of these unimportant ruins.

ST.-MAUR-DE-GLANFEUIL

De la Croix. Trouvaille d'une villa gallo-romaine et d'un nymphée. (In L'ami des monuments et des arts, 1899–1900, vols. 13 and 14, p. 120.) — Mediocre publication.

VIENNE

A. J. Barnard. Le Temple d'Auguste et la nationalité gauloise. Lyon, 1863. Folio.

Étienne Rey. Monuments romains et gothiques de Vienne en France. Paris, Firmin-Didot Frères, 1831. Folio. — Very fine drawings.

D. GREECE, ASIA MINOR, MONTENEGRO, ETC.

ARGOS

Edward Lippincott Felton. The architecture of the Argive Heræum. Section I of "The Argive Heræum" by Charles Waldstein. Boston and New York, Houghton, Mifflin & Co., 1903. — An excellent work, dealing chiefly with Greek monuments.

ATHENS

A. R. Rangabé. Das Erechtheion. (In Deutsches archäologisches Institut, Mittheilungen, vol. 7, pp. 257–273, 321–334, pl. 10.)

W. P. Tuckermann. Das Odeum des Herodes Atticus und der Regilla in Athen restauriert. Bonn, Adolph Marcus, 1868. — Not an important work.

A. Koester. Das Stadion von Athen. Berlin, Albrecht-Dürer Haus, 1906. 8vo.

DOCLEA

Munro, Anderson, Milne, and Haverfield. On the Roman town of Doclea in Montenegro. (In Archæologia, 1896, vol. 55, p. 33 seq.) — Important.

CYRENE

Smith and Porcher. History of the recent discoveries at Cyrene. London, Day and Son, 1864. — A very unsatisfactory publication of important discoveries, but as far as I know the only work available on this subject.

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C. MONOGRAPHS

EPHESUS

J. T. Wood. Discoveries at Ephesus. Boston, James R. Osgood & Co., 1877. — A narrative of Wood's famous excavations.

G. Radet. La topographie d'Ephèse. (Journal des savants, N. S. IV, 1906, p. 251.)

Edward Falkener. Ephesus and the Temple of Diana. London, Day and Son, 1862. — Very prolix, but important.

G. Weber. Guide du voyageur à Ephèse. Smyrne, "La Presse," 1891. — Not exhaustive but handy.

CORINTH

S. P. Lampros. Über das korinthische Amphitheater. (In Deutsches archäologisches Institut, Mittheilungen, Athenische Abtheilung, vol. 2, pp. 282–88.) — A good concise account.

LESBOS

Robert Koldewey. Die antiken Baureste der Insel Lesbos. Berlin, Georg Reimer, 1890. — A most excellent monograph on the Greek and Roman remains of Lesbos.

Boutan. Rapport sur la topographie et l'histoire de l'île de Lesbos. (Archives des missions scientifiques V, 1856.)

Plehn. Lesbiacorum liber composuit Severus Luciannus Plehn. Berolini, 1826.

Zander. Beiträge zur Kunde der Insel Lesbos. Hamburg, 1827.

OLYMPIA

Ernst Curtius und Friedrich Adler. Olympia. Die Ergebnisse. Berlin, A. Asher & Co., 1890–97. 5 vols. 4to and Folio. — A monumental work.

Ernst Curtius et als. Die Ausgrabungen zu Olympia. Berlin, 1875–81. 5 vols.

Laloux et Monceaux. Restauration d'Olympie; l'histoire, les monuments, le culte, et les fêtes. Paris, 1889.

C. Gaspar. Olympia. Paris, Hachette et Cie., 1905. 8vo. Reprinted from the *Dictionnaire des antiquités grecques et romaines* of Daremberg, Saglio, et Pottier.

G. Kawerau. Bericht über den Wiederaufbau zweier Säulen des Heraions in Olympia. (Mitteilungen des kaiserlich deutschen archäologischen Instituts, Athenische Abtheilung XXX, 1905, pp. 157–712.)

Boetticher. Olympia, 1883.

R. Weil. Über die Ausgrabungen in Olympia. (In Deutsches archäologisches Institut, Mittheilungen, Athenische Abtheilung, vols. 2, 3.)

Emil Schnippel. Die Ausgrabungen zu Olympia und des Hermes des Praxiteles. Vortrag . . . in der Aula des Gymnasiums zu Oldenburg. Separatabdruck aus der Oldenburgerzeitung. Oldenburg, 1880. — A pamphlet.

W. Dörpfeld. Die Altismauer in Olympia. (In Deutsches archäologisches Institut, Athenische Abtheilung, vol. 13, pp. 327–336.)

Franz Richter. De thesauris Olympiæ ex fossis. Berolini, 1885. A doctor's dissertation at Berlin University. Pamphlet.

G. D. K. Treu. Zu den Funden von Olympia. (In Archäologische Zeitung, vol. 34, p. 40.)

R. Engelmann. Die Ausgrabungen in Olympia. (In Repertorium für Kunstwissenschaft, 1879, vol. 2.)

C. C. Perkins. Olympia as it was and as it is. (In American art review, 1880, vol. 1, part 1; vol. 1, part 2.)

John Spencer Stanhope. Olympia, or topography illustrative, etc. London, 1824.

PERGAMON

Conze, Humann, et als. Alterthümer von Pergamon. Berlin, W. Spemann, 1890 seq.

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Eight parts, several of two volumes. — A monograph of colossal dimensions and of great scholarship, issued under the auspices of the Berlin Museum. — In course of publication.

Pontremoli et Collignon. Pergame. Restauration et description des monuments de l'acropole. Paris, Société française d'éditions d'art, L. Henri May, 1900. — An excellent work, which will be found quite sufficient for the many from whom Conze's work is barred by its prohibitive price.

Conze, Humann, et als. Die Ausgrabungen zu Pergamon, und ihre Ergebnisse. Jahrbuch der königl. Preuss. Kunstsammlungen. First Report, vol. 1, 1880; Second Report, vol. 3, 1882; Third Report, vol. 9, 1888. — A series of preliminary reports.

Conze. Pro Pergamo. Berlin, Reimer, 1898. — "Contains a very lively and agreeable resumé of the principal results of the excavations." (Collignon.)

Conze und Schuchhardt. Die Arbeiten zu Pergamon. (Deutsches archäologisches Institut, Mittheilungen, Athenische Abtheilung, vol. 24, pp. 97–246.)

J. L. Ussing. Pergamos dens Historie og Monumenter. Copenhagen, 1897. German translation under title, Pergamos, seine Geschichte und Monumente. Berlin and Stuttgart, Spemann, 1899.

Berlin Museum Authorities. Führer durch die Ruinen von Pergamon. Berlin, 1885.

Thiersch. Die Königsburg von Pergamon. Engelmann, Stuttgart. — "A summary accompanied by a restoration in doubtful taste." (Collignon.)

SPALATO

R. Adam. Ruins of the palace of the Emperor Diocletian at Spalato. 1864. Folio. — "The only complete description of this palace." (Anderson and Spiers.)

THERA

Dörpfeld et als. Thera. Untersuchungen, Vermessungen, und Ausgrabungen, 1895–1902. Berlin, Georg Reimer, 1904. 3 vols. — An exhaustive monograph, mainly on the Greek remains.

E. HERCULANEUM

GENERAL [1]

Galante. De Herculanense regione Neapoli. Napoli, Giannini, 1879. 4to. "Estratto del volume, *Pompeii e la regione sotterrata.*"

Carlo Bonucci. Ercolano. Con figure. Napoli, Stamperia del Filreno, 1835. 4to.

[*Requier*] . . . Recueil général, historique, et critique de tout ce qui a été publié de plus rare sur la ville d'Herculane depuis sa première découverte jusqu'à nos jours, etc. Paris, Duchesne, 1754. 16°. — Of no value to-day.

Bellicard. Observations upon the antiquities of Herculaneum. 42 plates. London, Wilson and Durham, 1753 and 1756. 8vo.

Cochin et Bellicard. Observations sur les antiquités d'Herculanum. Naples, Jean Gravier, 1757.

Charles de Brosses. Lettres sur l'état actuel de la ville souterraine d'Herculée.

De Boudaroy Fougeroux. Recherches sur les ruines d'Herculanum et sur les lumières qui peuvent en résulter, etc. Paris, Desaint, 1770. 12°.

HISTORY OF THE EXCAVATIONS

Ruggiero. Storia degli scavi di Ercolano ricomposta su' documenti superstiti. Napoli, Accad. Reale delle Scienze, 1885. 4to.

Andrea de Jorio. Notizie sugli scavi di Ercolano. Napoli, Stamperia Francese, 1827. 8vo. — Very good for its date.

[1] For additional works on Herculaneum see Addenda.

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C. MONOGRAPHS

Marcello de Venuti. Descrizione delle prime scoperte dell' antica città di Ercolano, etc. Roma, Bernabà e Lazzarini, 1748. 4to. 2nd edition, Venice, 1749. — "The first publication of the excavations of Herculaneum by the first director." English translation by Wickes Skurray. London, 1750. 8vo.

A. F. Gori. Notizie del memorabile scopimento dell' antica città di Ercolano, etc. Firenze, Stamperia Imperiale, 1748. 8vo — "One of the earliest works on Herculaneum."

Winckelmann. Sendschreiber von den herculanischen Entdeckungen an den hochgeb. Herrn Reichsgrafen von Brühl. Dresden, Walther, 1762. 4to. Neue Ausgabe, Selten, 1792. French translation, Paris, Tilliard, 1764. 4to.

Winckelmann. Nachrichten von den neusten herculanischen Entdeckungen. Dresden, Walther, 1764. 4to. — A continuation of the afore-mentioned work.

D'Aloe. Degli scavamenti ercolanesi nel secolo presente. 4to.

H. M. A. Cramer. Nachrichten zur Geschichte der herculanischen Entdeckungen. Halle, Gebauer, 1773. 8vo.

Seigneux. Lettres sur la découverte de l'ancienne ville d'Herculane et de ses principales antiquités. Yverdon, 1730. 2 vols. 12°.

MONOGRAPHS ON PARTICULAR BUILDINGS

Piranesi. Teatro di Ercolano. Roma, 1783. Folio. — Flamboyant drawings.

Comparetti e De Petra. La villa ercolanese dei Pisoni, i suoi monumenti, e la sua biblioteca. Ricerche e notizie. Torino, Loescher, 1883. Folio.

ITALY, EXCEPT HERCULANEUM, POMPEII, AND ROME[1]

ANCONA

Morelli. Guida di Ancona e de' suoi dintorni.

AOSTA

Anonymous. Riassunto della relazione presentata intorno ai restauri di Porta Pretoria di Aosta. (Atti della Società di archeologia e belli arti di Torino III, 1883, p. 250.) — Contains one plan.

Promis. Le antichità di Aosta.

ASSISI

Giovanni Antolini. Il Tempio di Minerva in Assisi accresciuta di una disamina d'altr' antichi monumenti. 2a edizione, Milano, 1828. Folio. 1a ed., 1803. — Good drawings and an amusing exposé of the careless measurements of Palladio.

BAIA

J. Schmatz. Baiæ, das erste Luxusbad der Römer. Teil I. Regensburg Programm. 1905. 8vo.

BOVILLE

Guiseppe Tambroni. Intorno alcuni edificii ora reconosciuti dell' antica città di Boville. (In Accademia romana di archeologia, Dissertazioni, 1829, vol. 3, p. 119 seq.)

CAERE

Canina. [Monograph on Caere.] (Hemans.)

[1] The monographs on these three cities are so numerous that for the sake of clearer classification they are here listed separately and will be found respectively on pages 374, 378, 381.

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CAMPAGNA

U. Fleres. Campagna romana. Collezione di monographie illustrate, no 7. Bergamo, Istituto Italiano d'Arti Grafiche, [c. 1906?]. 4to.

R. Lanciani. Di alcune opere di risanamento dell'agro romano. Roma, Salviucci, 1879. Folio. — An able topographical pamphlet.

N. M. Nicolai. Storia de' luoghi una volta abitati nell'agro romano. (In Accademia romana di archeologia, Dissertazioni, 1821–36, vol. 1, pt. 1.)

Christian Müller. Roms Campagna. [1824.]

Stefano Piale. Della suburba antica. Roma, Crispino Puccinelli, 1833. — Of no value to-day.

CORI

Giovanni Antolini. Il tempio di Ercole in Cori. 2a edizione, Milano, 1828. Folio. — The drawings are valuable.

FIESOLE

Hans Dütschke. Das antike Theater von Fiesole. (In Archäologische Zeitung, vol. 34, p. 93 seq.) — A very wordy, but adequate publication, and the only one available.

Inghirami. Guida di Fiesole.

HERCULANEUM

The monographs on this city are so numerous they are classed separately, and will be found above, page 374.

INDUSTRIA

Fabretti. Dell' antica città d'Industria detta prima Bodincomago, e dei suoi monumenti (Società di archeologia e belle arti de Torino, Atti III, 1880, pp. 17–115.) — A learned and prolix account.

IVREA

Carlo Promis. Memorie sugli avanzi del teatro romano d'Ivrea. (In Torino, Società di archeologia et belli arte, Atti III, 1883, p. 87.) — A short article with one plate.

OSTIA

Pierre André. Théâtre et forum d'Ostie. (In Mélanges d'archéologie et d'histoire, 1891, p. 492 seq.)

Canina. Indicazione delle rovine di Ostia e di Porto.

Lanciani. Scavi di Ostia. Roma, Salviucci, 1881. 4to. — Two pamphlets of the same date and title, the later correcting the former.

E. Rocchi. Baccio Pontelli e la rocca d'Ostia. (In L'arte già archivio storico dell' arte, 1898, vol. 1, p. 27 seq.)

PÆSTUM

Anonymous. Raccolta degli antichi monumenti esistenti nella città di Pesto. Roma, Agapito Franzetti al Corso, no date. — A collection of small and poor engravings.

POMPEII

The monographs on this city are so numerous that they have been separately listed and will be found below, page 378.

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C. MONOGRAPHS

POZZUOLI

De Jorio. Ricerche sul Tempio di Serapide in Pozzuoli. Naples, 1820. 4to. — Important since it contains drawings of portions that have now disappeared.

Paolo Antonio Paoli. Antichità di Pozzuoli. [Naples, 1798.] Folio. — Contains some very good engravings.

Guisseppe Monnile. Descrittione della città di Napoli e dell' antichà della città di Pozzuolo. 1625.

PRAENESTE [PALESTRINA]

O. Marucchi. Nuovi studî sul tempio della Fortuna in Preneste e sopra i suoi musaici. Roma, 1905. 8vo.

Paul Blondel. État actuel des ruines du temple de la Fortune à Préneste. (In Mélanges d'archéologie et d'histoire, 1882, pp. 168–198.)

J. M. Suarès. Praenestes antiquae libri duo. Romae, 1655. 8vo.

RIMINI

Luigi Nardi. Descrizione antiquario-architettonica con rami dell' arco di Augusto, ponte di Tiberio, e tempio Malatestiano di Rimini. Rimini, 1813. Folio. — Contains some good drawings.

Luigi Tonini. Dell' anfiteatro di Rimini, — osia, Relazione degli scavi fatti, nel 1843–44, alla scoperta di questo monumento con alcune osservazioni storiche. Rimini, 1844. 8vo.

ROME

The monographs on Rome are so numerous, they have been listed separately below, page 381.

STABIA

Ruggiero. Degli scavi di Stabia dal 1749–82. Napoli, Reale Accad. delle Scienze, 1881. 4to.

SUSA

Ermanno Ferrero. L'arc d'Auguste à Suse. Turin, Bocca Frères, 1901. Folio. — A splendid monograph.

Paol' Antonio Massazza. L'arco antico di Susa. Torino, Stamperia Reale, 1750. — Of slight value.

TIVOLI

Coussin. Temple de Vesta (restauration exécutée en 1802). Restaurations des monuments antiques par les . . . pensionnaires de l'académie de France à Rome. Paris, Firmin-Didot et Cie., 1879. Folio. Bound with Dubut, Temple de la Pudicité. — The drawings are beautiful, but the restorations are incorrect.

A. Nibby. Descrizione della villa adriana. Roma, Angelo Ajani, 1827. 8vo. Pamphlet. — Still of value.

TRIESTE

Giulio Caprin. Trieste. Collezione di monografie illustrate. Serie Italica artistica. no. 22. Bergamo, Istituto Italiano d'Arti Grafiche, [1906 ?]. 4to.

TUSCULUM FRASCATI

Canina. [Monograph on Tusculum.]

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VEII

Canina. L'antica città di Veii descritta e dimostrata con i monumenti. Roma, Canina, 1847. Folio. — An elaborate publication.

VELEIA

Giovanni Antolini. Le rovine di Veleia, misurate e disegnate. Milano, Società Tipografica de' Classici Italiani, 1819. 2a edizione, 1831. — A very valuable work, notwithstanding the fact that it contains many errors.

VERONA

Antonio Pompei. Sopra un regionato ristauro dell' anfiteatro di Verona. Verona, G. Franchini, 1872. Folio. — Not scholarly.

Giuseppe Bennassuti. Del teatro antico veronese. Verona, Bennassuti, 1827. 4to. — Imaginative.

Maffei. Verona illustrata.

Maffei. Compleat history of the ancient amphitheaters; more particularly, regarding the architecture of . . . that of Verona, made English by A. Gordon. London, 1730. 8vo.

POMPEII

GENERAL

August Mau. Pompeii, its life and art. Translated into English by Francis W. Kelsey. New York, Macmillan Co., 1902. — An excellent account, that will be found to be of the greatest value. The English edition is called a translation, but the work has not appeared in any other language.

H. Thédenat. Pompeii. I. Histoire; vie privée. II. Vie publique. Paris, Laurens, 1906. 8vo.

F. von Duhn. Pompeji — eine hellenistische Stadt in Italien. Leipzig, B. G. Teubner, 1906. 8vo.

A. Sambon, Toudouze, et Foville. La banlieue de Pompéi, Boscoreale, Boscotrecase, et la marine du Sarno. (Le Musée III, 1906, p. 159.)

Ruggiero, etc. Pompei e la regione sotterrata dal Vesuvio nel' anno 79. Memorie e notizie pubblicate dall' ufficio tecnico degli scavi delle provincie meridionali. Napoli, Giannini, 1879. 4to.

Antonio Sagliano. Pompei nella letteratura. Conferenza tenuta al Circolo Filologico di Napoli. Napoli, Morano, 1888. 16°.

Luigi Fischitti. Pompeii, past and present, illustrated by photographs of the ruins as they are, with sketches of their original elevations. Naples, Vaglio, 1882. London, William Clowes & Sons, 1884. 4to. Reprinted, Naples, Raimondi, 1889. French translation: Pompéi en ruines et en restauration . . . Naples, Giannini, 1886.

August Mau. Pompejanische Beiträge. Berlin, Georg Reimer, 1879.

Goro. Wanderungen durch Pompeii. Wien, Mörschner und Jasper, 1825. Folio. — "A valuable work, with notices on preceding works of literature." (Furchheim.)

Gell and Gaudy. Pompeiana; the topography, edifices, and ornaments of Pompei. London, Rodwell and Martin, 1817–19. 8vo. 2nd edition, 1821. 2 vols. 3rd edition, 1852. — "One of the most curious and carefully illustrated earlier works on Pompeii. (Furchheim.)

Gustave Bascle de Lagrèze. Pompéi, les catacombes, l'Alhambra. 3me édition, Paris, Firmin-Didot, 1889. 8vo. 1ère édition, 1872.

Gaspard. Une visite à Pompéi en décembre, 1869. (In Société académique de l'architecture de Lyon, Annales, 1871, vol. 2, pp. 131–170.)

Giuseppe Fiorelli. Descrizione di Pompei. Napoli, Tipografia Italiana, 1875. 12°. — A very long and uninteresting description. The illustrations are of no value.

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C. MONOGRAPHS

William Clarke. Pompeii, its past and present state; its public and private buildings, etc. London, Nattali and Bond, 1849. 2 vols. 8vo. 1st edition, 1847. 2 vols. 16°. — A very fair description with small but good engravings.

W. Butler. Pompeii descriptive and picturesque. London, Blackwood, 1886. 8vo. — A fairly good but very elementary description, without illustrations.

Brochure Series. Ruins of Pompeii. Vol. 3, No. 5, May, 1897. — Unimportant.

Anonymous. Mémoire historique et critique sur la ville souterraine, découverte au pied du Mont Vésuve, etc. Avignon, Giroud, 1748. 12°. — One of the earliest works on Pompeii. German translation by Eberhard und Erfurt, Leipzig, Webern, 1749.

Dyer. Pompeii; its history, buildings and antiquities. 300 woodcuts. London, Bell & Daldy, 1867. 8vo. Other editions 1875, 1882, and 1887.

Pier Ambrogio Curti. Pompei e le sue rovine. Milano, Sauvito, 1872–75. 3 vols. 16°.

Fiorelli. Programma sulle regioni Pompeiane e della loro antica distribuzione. Napoli, Giacomo Limongi, 1858. 4to. "Estratto dal Bulletino Archeolog. Napol., Anno VII, 1858."

Johannes Overbeck. Pompeji in seinen Gebäuden, Alterthümern, und Kunstwerken dargestellt. 4th edition. Leipzig, Engelman, 1884. 1st edition, 1855; 2nd, 1866; 3rd, 1875.

Carlo Bonucci. Pompei. Con figure dei sui edifizi, dipinture, etc. Napoli, Guttemberg, 1837. 4to.

Carlo Bonucci. Pompei descritta. 3a edizione con nuove osservazioni ed aggiunte. Napoli, Raffaele Miranda, 1827. 8vo. 1a ed., 1824; 2a ed., 1826. French translation, Naples, 1830. — In its day a convenient book, but it has been supplanted by many later publications. No illustrations of value.

Heinrich Wedell. Pompeii und die Pompeianer. Auf Grundlage von M. Monniers Werk erweitert, etc. Leipzig, Hirt, 1877. Neue illustr. Jugend-Bibliothek.

C. Augusto Vecchj. Pompei. 2a edizione, riveduta ed ampliata, Firenze, Le Monnier, 1868. 12°. 1a ed., Torino, 1864.

Luigi Rossini. Le antichità di Pompei delineate su le scoperte fatte sino a tutto l'anno 1830. Roma, 1830. Folio.

P. F[umagalli]. Pompeia; trattato pittorico, storico, e geometrico. Firenze, 1824–33. 4to. A French translation was published in Florence, c. 1830. — Very mediocre.

S. Stier. Geschichte und Beschreibung der Stadt Pompei. Wittenberg, 1853.

Engelhard. Beschreibung der in Pompeii ausgegrabenen Gebäude. Berlin, Georg Reimer, 1843.

Gaspare Vinci. Descrizione delle ruine di Pompei. Napoli, F. Fernandes, 1827. 12°. 2nd edition, 1830; 3rd ed., 1831; 4th ed. "corretta ed accresciuta," 1835; 5th ed., 1839; 8th ed. 1846. — Quite out of date.

Anonymous. Pompeii illustrated. New York, John Ireland, [1885]. — Worthless.

ILLUSTRATIONS

A. e F. F. Niccolini. Le case ed i monumenti di Pompei disegnati e discritti. Napoli, 1854–91. 8 vols. Folio. — A great edition de luxe. The sumptuous drawings, however, are said to be not impeccable archæologically.

C. Weichardt. Pompeji vor der Zerstörung. Reconstructionen der Tempel und ihre Umgebung. Leipzig, Koehler, 1896. Folio. — The most modern of the great works on Pompeii. The drawings are superb.

F. Mazois. Les ruines de Pompéi, dessinées et mesurées pendant les années 1809, 1810, 1811. Paris, Firmin-Didot, 1824–38. 4 vols. Folio. — Also a work of the first importance, notwithstanding its early date. The translation in Italian (Milan, 1825, 8vo) is of little value.

Anonymous. Monumenta Pompeiana. Leipzig, G. Hedeler, 1906. — A great edition de luxe with colored plates.

A. Niccolini. Arte Pompeiana. Monumenti salti. Napoli, Antonio Niccolini, 1888. Folio. — 55 plates reproduced from the "Case e Monumenti" of the same author.

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A. Niccolini. Pompei. Napoli, Antonio Niccolini, 1885. Album di 24 tavole cromolitogr. in folio piccolo senza testo estratte dalle "Case e Monumenti di Pompei."

G. e L. E. Solari. Le rovine di Pompei disegnate e descritte. Napoli, de Angelis, 1876–80. — A work which has never been completed.

Th. L. Donaldson. Pompeii illustrated with picturesque views engraved by W. B. Cook from the original drawings of Lieut.-Col. Cockburn, etc. London, Murray, 1827. 2 vols. Folio. — "A fine work with 80 plates." (Furchheim.)

Francesco de Cesare. Pompéi et ses ruines les plus remarquables, relevées d'après nature et rapportées en 45 planches avec observations historiques et artistiques. Naples, J. de Angelis et fils, 1879. 8vo. — The drawings are good, though some of the plans are not of unquestionable accuracy. An Italian edition with the title: "Le più belle ruine di Pompei" (Napoli, Del Sebeto, 1845, 4to) is preferable.

I. W. Huber. Vues pittoresques des ruines les plus remarquables de l'ancienne ville de Pompéi. Zurich, chez l'auteur, 1824. — "Assez bien exécuté."

William Light. A series of views of Pompeji. London, J. Carpenter and Son, 1828.

Raimondo Guarini. Illustrazioni di alcuni monumenti di Pompei. Napoli, Stamperia della Società Filomatica, 1825. 8vo.

T. H. Dyer. Pompeii photographed. London, Bell & Daldy, 1867. 4to. 1st edition, 1866, bore title "Ruins of Pompeii". — Eighteen views with mediocre descriptive matter.

GUIDE BOOKS

E. N. Rolf. Pompeii popular and practical. An easy book on a difficult subject. Naples, Furchheim, 1888. 8vo. — A guide book, better than might be expected from the title.

Nicola Pagano. Guida di Pompei. Settima edizione, Napoli, Fratelli Testa, 1876. 16°. — Almost too brief.

Gustave Bascle de Lagrèze. Une visite à Pompéi. Paris, Firmin-Didot, 1887. 8vo.

Marc Monnier. Pompéi et les Pompéiens. 2me éd., Paris, Hachette, 1865. 12°. 3me éd. abrégée à l'usage de la jeunesse. Italian translation, Milano, Treves, 1875. — A mediocre guide book.

R. Schowner. Pompeji. Stuttgart, W. Spemann, 1876. 12°. — Out of date.

Andrea de Jorio. Plan de Pompéi et remarques sur ses édifices. Naples, G. Martin, 1828. 8vo. Another edition, 1839. Italian translation by Ercole Carrillo, Napoli, 1836. — The usefulness of this book has passed.

REPORTS ON THE EXCAVATIONS

Sogliano. Dei lavori eseguiti in Pompei. Relazione a S. E. il Ministro della Instruzione Publica. Napoli, 1906. 8vo.

Richard Engelmann. Die neuen Ausgrabungen in Pompeji. (In Zeitschrift für bildende Kunst, 1901, N. F., vol. 12, pp. 287–291.)

August Mau. Die Ausgrabungen von Pompeji. (Kaiserlich deutsches archäologisches Institut, Mittheilungen, Römische Abtheilung, vol. 1–4, 1884–90.)

Ludovico Pepe. Gli scavi di Pompei. Notizie tratte dai documenti originali. Valle di Pompei, Bartolo Longo, 1887. 16°. — "Composto sulla base dei documenti pubblicati dal Fiorelli."

Emil Presuhn. Pompeji, die neuesten Ausgrabungen von 1874 bis 1881 für Kunst- und Alterthumfreunde . . . 2nd ed. enlarged, Leipzig, 1882. Folio.

L. Viola. Gli scavi di Pompei dal 1873 al 1878. Napoli, Giannini, 1879. 4to.

Fiorelli. Gli scavi di Pompei dal 1861 al 1872. Napoli, Tipografia Italiana, 1873. Folio. — Report to the minister of public instruction, containing some valuable plans and unusual information.

Finati. Relazione degli scavi di Pompei, 1852 e seq. (Publicata in continuazione di quella di Gugl. Bechi nei volumi XV (1850) e XVI (1857) del Real Museo Borbonico.)

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C. MONOGRAPHS

Finati. Giornale degli scavi di Pompei. Napoli, Stamperia della Regia Università, 1850, 1861–65, 1868, 1879. 8vo and 4to. After 1879, incorporated with "Notizie degli scavi di antichità."

Guglielmo Bechi. Relazione degli scavi di Pompei. This official announcement was published periodically by the Museo Borbonico, from 1824 until 1852, when Bechi died, and the work was continued by Finato.

Carlo Bonucci. Pianta degli scavi di Pompei. Napoli, 1848.

Hippolyte Vilain. Sur une fouille récemment faite à Pompéi. Lettre à M. le Baron de Stassart. Bruxelles, 1842. 8vo.

Enrico Schulz. Rapporto intorno gli scavi Pompejani esseguiti negli anni 1835–38. Roma, 1839. 8vo.

[*Comte F. de Clarac*]. Fouille faite à Pompéi en présence de S. M. la reine des Deux Siciles, 1813. (In Le journal français de Naples, les 4–7 avril, 1813.)

[*Comte F. de Clarac*]. Fouille du 1er Mai. Supplément. Naples, 1813. 8vo.

W. Hamilton. Nachrichten von den Entdeckungen in der Stadt Pompei (1777). Translated from the English by Von Murr. Nürnberg, Campe, 1780. 4to.

W. Hamilton. Account of the discoveries at Pompeii. London, Bowyer & Nichols, 1777. 4to. — Of little value.

MONOGRAPHS ON PARTICULAR BUILDINGS

A. Brulloff. Les thermes de Pompéi. Paris, Firmin-Didot, 1829. Folio. — Important.

Catalano, Travaglini, et als. Memoria sul ristauro della casa detta del Fauno in Pompei.

Ely Talfourd. House of Aulus Vettius, recently discovered in Pompei. (In Archæologia, 1897, vol. 55,[2] pp. 301–318.)

Désiré Rochette. Maison du Poëte Tragique à Pompéi. Paris, C. Leconte, [1828]. — "Ouvrage très joli et peu commun."

A. Niccolini. Domus Vettiorum, la nouvelle maison de Pompéi. Naples, 1896. Folio. — A fine publication, especially valuable for the reproductions of the mural decorations.

F. M. Avellino. Descrizione di una casa Pompejana, con capitelli figurati all' ingreso, disotterrata negli anni 1830, 1831, e 1833. La terza alle spalle del Tempietto della Fortuna Augusta. Napoli, Tramater, 1837, 4to. — A publication, considering its date, surprisingly adequate.

F. M. Avellino. Descrizione di una casa disotterrata in Pompei, negli anni 1832–41, la seconda alle spalle del Tempio della Fortuna Augusta con ingresso sulla strada chi volgesi verso la Porta detta di Nola, etc. Napoli, 1840. 4to.

F. M. Avellino. Descrizione di una casa disotterrata in Pompei, nell' anno 1833, la quarta alle spalle del Tempio della Fortuna Augusta, con ingresso sulla strada che volgesi verso la porta detta di Nola. Napoli, Stamperia Reale, 1835. 4to.

G. B. Finati. Sepolcro di A. Umbricio Scauro duumviro Pompeiano. Napoli, Stamperia Reale, 1853. 4to. — "Estratto dal Bullettino del Real Museo Borbon., vol. XV." (Furchhiem.)

A. L. Millin. Description des tombeaux qui ont été découverts à Pompéi. Naples, Imprimerie Royale, 1813. — Fairly adequate publication.

Guglielmo Bechi. Del ealcidico e della cripta di Eumachia scavati nel foro di Pompeja l'anno 1820. Napoli. 4to. — Entirely misleading.

ROME

DOCUMENTARY SOURCES

Baron H. von Geymüller. Documents inédits sur les Thermes d'Agrippa, le Panthéon, et les Thermes de Dioclétian. Lausanne, George Brindel, 1883. — A publication of early Renaissance drawings, valuable though often puzzling and even misleading. Geymüller's book is to be approached with extreme caution by the student not sure of his ground.

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Bramantino. (1455?–1530?.) Le rovine di Roma al principio del secolo XVI . . . fotocromo-litografate da A. della Croce con . . . note di G. Mongeri. 2d ed., Milano, 1881. Folio.

Mirabilia urbis Romae. A medieval guide-book to Rome, written (as is deduced from internal evidence) in the last part of the XII century, and of extraordinary interest as the first work on the Roman ruins, though unfortunately its descriptions are vague.

Graphia aureae urbis Romae. A XIII century recension of the above work, making, however, considerable changes. The Graphia was first printed by Mautfauçon in his Diarium Italicum 1702.

Effemeridi litterarie di Roma with preface by Alberti, contained the first printed edition of the Mirabilia. The work has been reprinted (Roma, della Tipografia Forense, 1684. 12°).

Gustaf Parthey printed the Mirabilia at Berlin, 1869. 8vo. A late form of the text is given.

Charles Lewis Urlichs. Codex urbis Romae topographicus. 1871. — Contains the best edition of the Mirabilia, giving all six of its original versions.

Francis Morgan Nichols. The marvels of Rome. London, Ellis and Elvey, etc., 1889. 4to. — A very accessible and good translation of the Mirabilia and parts of other medieval works on Rome.

Flavio Biondo. Roma restaurata, c. 1431–47. — Valuable for descriptions of monuments that have since disappeared.

Poggio Bracciolini. De varietate Fortunae (c. 1447). — "A philosophical work with important allusions to the state of decay and the deliberate injuries inflicted on the monumental wealth of the city in his day."

Raphael. Memoir on the means of preserving or restoring classic monuments, "is a precious though brief document."

Flaminio Vacca. Notes (1594). Not intended for publication, but containing information as to the extent to which Roman antiquities had been despoiled before the years in which the author wrote.

Andrea Fulvio. Antiquitates urbis Romae, per Andream Fulvium . . . Pref. 1527. 4to. — A very early work. A second edition annotated by Ferucci appeared in Venice, Girolamo Francini, 1588.

Raffaele Maffei. [Description of Rome and her Mirabilia.] 1506.

J. Mazzochi. Epigrammata antiquae urbis. Rome, 1512. — With most strangely distorted engravings of buildings, etc.

Lucio Fanno. Delle antichità della città di Roma, libre V. Venetia, Framezzino, 1548. — A curiosity.

Antonio Labbacco. Libro appartenente all' architettura, nel qual si figurano alcune notabile antiquità di Roma. Roma, 1558. 2a edizione, Roma, 1567. 3a edizione, Venetia, Girolamo Parro, 1576. Folio.

M. Andrea Palladio. L'antichità di Roma. Raccolta brevemente da gli autori antichi e moderni. 1574.

Lucio Mauro. Antichità di Roma. [XVI century.]

Bernado Gamucci. Le antichità della città di Roma. Venegia, 1565. 8vo. An earlier edition was published in 1552?. — This work is now interesting only as a curiosity.

Pomponio Leto. [A Latin treatise on local antiquities of Rome. XV century.]

Antonio Lafréry. Speculum Romanae magnificentiae, omnia fere quaecunque in urbe monumenta extant, partim juxta antiquam, partim juxta hodiernam formam accuratissime delineata. . . . Romae, 1575. Folio. — An early work with many engravings.

Ludovici Demontiriosii (Louis de Montjosieu). Gallus Romae hospes. Romae, Apud Ioanem Osmarinum, 1585. 4to. — Contains several inaccurate engravings.

J. J. Boissard. Romanae urbis topographia et antiquitates . . . figurae . . . in aere incisae artifice T. de Bry. Francfordii, 1596–1602. 2 vols. Folio.

Alò Giovannoli. Roma antica. Roma, 1619. 4to.

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Anonymous. Discrittione di Roma antica e moderna. Roma, Andrea Fei, 1643. 24°. — A few very small and very inaccurate engravings.

G. B. Casali. De urbis ac Romani olim imperii splendore . . . Roma, 1650. Folio.

Rossi. Descrizione di Roma antica. Roma, Michel Angelo e Pier Vincenzo Rossi, 1597. — A curious work with queer distorted engravings. The second (1654) and third (1688) editions bear the title: Ritratto di Roma antica.

Alberto Reimaro. Abgebildetes neues Romm darinnen die heute verhandene Kirchen. . . . Palläste, Gebäwe, Gemählde . . . auss dem Italiennischen ins Hochteudsche übergestezt von Alberto Reimaro. Ärnhem, 1662.

Fioravante Martinelli. Roma di nuovo esattamente ricecata nel suo sito. Roma, per gl' Eredi del Corb, 1702. 24°. — A curious little book with miniature engravings of ancient and modern Rome, very quaint, but useless to the student.

GENERAL

Samuel Ball Platner. The topography and monuments of ancient Rome. Boston and Chicago, Allyn & Bacon, [1904]. — An excellent work. The numerous references are of especial value.

Dr. J. H. Middleton. The remains of ancient Rome. 1892. 2 vols. 8vo.

R. Lanciani. New tales of old Rome. Boston and New York, Houghton, Mifflin & Co., 1901. 4to. Illustrated with half tones. — A book popular in tone, but of scientific value.

R. Lanciani. Pagan and Christian Rome. Boston and New York, Houghton, Mifflin & Co. 8vo. — A popular account, but of value.

R. Lanciani. Ruins and excavations of ancient Rome. Boston and New York, Houghton Mifflin & Co., 1897. 8vo.

R. Lanciani. Ancient Rome in the light of recent discoveries. Boston and New York, Houghton, Mifflin & Co.

R. Lanciani. The destruction of ancient Rome. — Well known.

Bunsen et als. Beschreibung, etc., der Stadt Rom. 1830. — A work that in its day has been very famous. — A compendium by Platner and Urlichs "supplies for practical use all that can be briefly given."

John Henry Parker. The archæology of ancient Rome. 2d edition, revised and enlarged. London, John Murray, 1879. 12 vols. 8vo. — I. The primitive fortifications. II. Walls and gates of Rome. III. Historical construction of walls. IV. The twelve Egyptian obelisks. V. Forum Romanum et magnum. VI. The Via Sacra. VII. The Colosseum at Rome. VIII. The aqueducts of Rome. IX and X. Tombs in and near Rome: mythology in funeral sculpture and Early Christian sculpture. XI. Church and altar decorations in Rome. XII. The catacombs. XIII and XIV. Early medieval castles: The Temple of Rome and the marble plan of Rome. — A work of great breadth of purpose, unfortunately not always well executed, and now in many ways greatly out of date.

William Wetmore Story. Roba di Roma. New edition. Boston, Houghton, Mifflin & Co. 2 vols. — "Only in part devoted to artistic matters."

William Wetmore Story. Castle St. Angelo and the evil eye, being additional chapters to the Roba di Roma. London, Chapman and Hall, 1877.

Henri Beyle de Stendhal. Promenades dans Rome. Paris, Delaunay, 1829. 2 vols.

Émile Bertaux. Rome. Antiquité. Villes d'art célèbres series. Paris, Laurens. 4to.

M. A. R. Tucker. Rome. (Twenty shillings series.)

John Dennie. Rome of to-day and yesterday. 3d edition, New York, Putnam, 1896. — "Pretends to no originality of research." (Sturgis.)

J. Salmon. An historical description of ancient and modern Rome. London, J. Taylor. 1800. — Of no especial value. The illustrations are small.

Hodder M. Westropp. Early and imperial Rome, or promenade lectures on the archæology of Rome. London, Elliot Stock, 1884. 8vo. — Out of date.

Francis Wey. Rome. New York, Appleton & Co., 1872. Folio. — A tiresome description.

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Arthur Shadwell. The architectural history of the city of Rome. Based on J. H. Parker's "Archæology of Rome." Oxford and London, Parker & Co., 1883. 12°. — In effect an abridgment of Parker's work, with all the faults of the original.

Arthur Schneider. Das alte Rom. Entwickelung seines Grundrisses und Geschichte seiner Bauten. Leipzig, Teubner, 1896. Folio. — An atlas of no scientific value.

Becker. Gallus, or Roman scenes in the time of Augustus.

Anonymous. Rome. Histoire de ses monuments. Citeaux, Imprimerie St. Joseph, 1890. 8vo. — "Ce livre est destiné tout spécialement à la jeunesse."

C. A. Bonneval. Antiquités romaines expliquées dans les mémoires du Comte de Bonneval, contenant ses aventures et ses découvertes sur les antiquités de la ville de Rome. La Haye, 1750. 8vo.

Abbé Raguet. Observations nouvelles sur les ouvrages de peinture, de sculpture, et d'architecture qui se voyent à Rome et aux environs pour servir de suite aux mémoires du comte de B. à Rome. Londres, 1765. 8vo.

Giuseppe Antonio Guattani. Monumenti antichi inediti ovvero notizie sulle antichità e belle arti di Roma. Roma, Stamperia Pagliarini, 1784. 4to. — Contains several plans and restorations of value.

Pirro Ligorio. [Work on Roman antiquities illustrated by designs "which are more to be relied upon than the text . . . many of whose theories might raise a smile."]

G. A. Guattani. Roma antica. Bologna, 1795. 4to. — A work characteristic of the XVIII century.

Francesco de Ficoroni. Le vestigie e rarità di Roma antica. Rome, 1744. 4to.

Milizia. Roma delle belle arti. 1787.

Georg Christian Adler. Ausführliche Beschreibung der Stadt Rom. Altona, Carl Ernst Bohm, 1781. 8vo.

Alexandro Donato. Roma vetus ac recens. Romae, Fausti Amidei, 1738. 8vo. — A typical XVIII century work with engravings rather more inaccurate than usual.

Rev. Stephen Weston. Viaggiana, or detached remarks on the buildings, pictures, statues, inscriptions, etc. of ancient and modern Rome. London, 1790. 12°. — Quite worthless.

GUIDE-BOOKS

Charles Hülsen. Das Forum Romanum. Seine Geschichte und seine Denkmäler. Rom, Lœscher & Co., 1904. 12°. A 2d edition, 1906. French translation by J. Carcopino, Rome, Lœscher & Cie., 1906. 12°. English translation by J. B. Carter from the 2d German edition, under title "The Roman Forum, its history and its monuments." Rome, Lœscher & Co., 1906. 12°. — An ideal guide-book, with bibliographical references.

Th. Gsell-Fels. Rom und die Campagna. (Meyer's Reisebücher.) 6 Aufl., Leipzig und Wien, Bibliographisches Institut, 1906.

Amelung and Holtzinger. The museums and ruins of Rome. The English edition revised by the authors and Mrs. S. A. Strong. London, Duckworth, 1906. 2 vols.

Ball. Rome. A practical guide to Rome and its environs. London, Black, 1906. 8vo.

Orazio Marucchi. Descrizione del Foro Romano e guida per la visita dei suoi monumenti. Roma, Bifani, 1881. 8vo. 2d edition in French, Rome, 1885; in Italian, Rome, 1896. The last edition greatly revised and enlarged was published under the title, Le Forum Romain et le Palatin, d'après les dernières découvertes. Paris and Rome, Desclée Lefebre & Cie., 1902. 8vo. — This is a capital guide-book with bibliography.

Marucchi. Guide du Palatin. 1898.

Visconti e Lanciani. Guida del Palatino. 1873.

Charles Isidore Hemans. Historic and monumental Rome. A handbook for the student of classical and Christian antiquity in the Italian capital. London and Edinburgh, Williams & Norgate, 1874. 4to. — Contains a chapter on "illustrative literature"; otherwise of little value.

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C. MONOGRAPHS

Phillippe Mercurii. Nouvelle description de Rome et des environs d'après les ouvrages de Nibby, Vasi, etc. Rome, L. Piale, 1854. 2 vols. 12°. — A guide, out of date, but which in its time was unsurpassed for clearness and scholarship.

Rev. Jeremiah Donovan. Rome, ancient and modern, and its environs. Rome, Crispino Puccinelli, 1842. 4 vols. 8vo. — A very copious guide-book, now of course behind the times.

A. Nibby. Itinerario di Roma e delle sue vicinanze, secondo il metodo di M. Vasi. 3a edizione, Roma, Aurelie, 1830. 2 vols. 12°. — An excellent guide in its day.

Humphreys and Cooke. Rome and its surrounding scenery. London, Charles Tilt, 1840. 4to. — Half guide, half book of travel.

A. E. Braun. Die Ruinen und Museen Roms. Braunschweig, 1854. 12°. There is also an English translation.

C. Fea. Description de Rome, traduite dc l'Italien . . . et . . . publiée par A. Bonelli. Rome, 1821. 3 vols. 12°. — A guide-book whose day of usefulness has passed.

Becker. Handbuch der römischen Alterthümer, 1er Theil. Lipsia, 1843.

Pietro Rossini. Il Mercurio errante. Roma, Fausto Amidei, 1750. 24°. — A worthless guide-book.

Anonymous. Roma antica e moderna. Roma, Niccola Roisecco, 1745. 3 vols. 12°. — A worthless guide-book.

François Léon. Les merveilles de la ville de Rome, où est traité des églises, stations, et reliques des corps des saints, etc. Rome, Jean François de Buagni, 1690. 12°. — One of the very earliest of the guide-books illustrated with hopelessly inaccurate engravings.

DRAWINGS

A. Desgodetz. Les édifices antiques de Rome. 2nd ed., Roma, 1843. 4 vols. Folio. — A well-known series of drawings, whose accuracy is not, however, always to be relied upon.

J. C. A. Moreau. Fragmens et ornemens d'architecture. Paris, 1800. Folio. — A supplement to Desgodetz.

Canina. Aggiunta e correzione procurate in parte dal Cav. Giuseppe Valadier compite e dichiarate dal Canina. Roma, 1843. Folio. — A further supplement.

Canina. Gli edifezj di Roma antica. Rome, 1848–56. 6 vols. Folio.

Francesco Turconi. Fabbriche antiche di Roma disegnate e ristaurate. Milano, Tipografia Molina, 1857. Folio. — Excellent measured drawings.

G. S. Taylor and E. Cresy. The architectural antiquities of Rome. London, G. S. Taylor, etc., 1821–22. 2 vols. Folio. — A series of good engravings showing the best archæological work of which the age was capable.

Bonaventure d'Overbeke. Les restes de l'ancienne Rome. Amsterdam, Jean Crellius, 1708. 3 vols. Folio. 2d edition, 1709. — A series of good engravings showing the best work of which the age was capable.

Bonaventure d'Overbeke. Stampe degli avanzi dell' antica Roma. Londra, 1739. — The plates of the foregoing work without text.

Achille e Pietro Parboni. Nuova raccolta delle principali vedute . . . di Roma. Roma, Antonelli, no date. 4to.

G. B. e F. Piranese. Antichità romane. 1748–78. [Illustrating the principal buildings and antiquities of classic Rome and its environs.] Unreliable in detail, but often valuable as showing the condition of monuments in the XVIII century.

M. Dubourg. Views of the remains of ancient buildings in Rome and its vicinity with a descriptive and historical account of each subject. London, 1844. Folio.

Giuseppi Vasi. Delle magnificenze di Roma antica e moderna . . . disegnate ed incise in rame . . . con una spiegazione istorica di tutte le cose notabili . . . composta dal G. Bianchini. Roma, 1747–61. 10 vols. — A very famous work in its day. Some of the engravings are still of value.

Abate Uggeri. Journées pittoresques des édifices de Rome. [c. 1800–04.] An Italian

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edition bears the title, "Giornate pittoresche degli edifizi antichi di Roma e dei contorni. Roma, 1800. Folio. — "Well illustrated."

Dominique Magnan. La ville de Rome, ou description abrégée de cette superbe ville. . . . Rome, 1778. 4 vols. Folio. — Many engravings.

Domenico Amici. Raccolta dei principali vedute di Roma. Roma, 1855. Folio. — 43 engravings.

Barbault. Les plus beaux monuments de Rome ancienne. Rome, Bouchard et Gravier, 1761. Folio. — A series of engravings good for the date.

Domenico Pronti. Nuova raccolta di 100 vedutine antiche della città di Roma. Roma, Presso il Sud⁶. Incisore, 1795. 2 vols. 4to. — A collection of small and mediocre engravings.

Anonymous. Raccolta di 320 vidute si antiche che moderne della città di Roma. Roma, Agapito Franzetti, [c. 1780?]. — A collection of small and mediocre engravings of Rome, ancient and modern.

Dominique Magnan. La ville di Rome. Roma, Archange Casaletti, 1778. 4 vols. Folio. — Many fair woodcuts.

G. B. Cipriani. Degli edifici antichi e moderni di Roma veduti in contorno. Roma, 1817. 2 vols.

Cassini Giovanni. Nuova raccolta delle megliori vedute antiche e moderne di Roma. Roma, 1775. Folio. — A collection of small and poor engravings.

Anonymous. Calcografia di Roma. Roma, Gio. Battista, 1779. 7 vols. 8vo. — A collection of poor and inaccurate engravings of buildings and statues, ancient and modern.

J. Merigot. A select collection of views of ruins in Rome and its vicinity. London, 1796–99. Folio. — Very inaccurate engravings.

Marco Sadeler. Vestigi delle antichità di Roma, Tivoli, Pozzulo, e altri luoghi. Roma, 1660. 4to.

Petri Schenkii. Roma aeterna. No date or place. 4to. — A collection of inaccurate engravings.

Henry Abbott. Antiquities of Rome; 24 select views of its principal ruins. London, Baldwin, Cradock & Joy, 1820. Folio. — Execrably bad engravings.

Jacobi Lauri. Antiquae urbis splendor — hoc est praecipua eiusdem templia, amphitheatra, theatra, circi, naumachiae, arcae triumphales, mausolea, aliaque sumptuosiora aedificia, etc., etc. Romae, 1612. — A curiosity. The engravings too inaccurate to be of any use in supplying data as to the conditions of the monuments in the XVII century.

Joachim von Sandart. Romae antiquae et novae theatrum. Norimbergae, 1684. Folio.

TOPOGRAPHY

R. Lanciani. Forma urbis Romae. Mediolani, apud Ulricum Hoepli, 1893–1901. Folio. — A monumental work, consisting of maps of Rome showing all the remains of ancient and modern buildings, and giving details of all the excavations.

O. Gilbert. Geschichte und Topographie der Stadt Rom im Alterthum. Leipzig, 1883–90. 3 vols.

Léon Homo. Lexique de topographie romaine. 1900. 12°.

H. Jordan. Topographie der Stadt Rom im Alterthum. Berlin, Wiedmannsche Buchhandlung, 1871–85. 4to. — A work of great learning, which is notable as containing the first really critical edition of the Mirabilia.

R. Lanciani. Topografia di Roma antica — i commentarii di Frontino intorno le acque e gli aquedotti. Roma, Salviucci, 1880. Folio. — Extremely learned.

Gibbon. Decline and fall of the Roman Empire. Chap. 71 is devoted to the topography and monuments of Rome.

Richter. Topographie der Stadt Rom. 1889. 2d edition, München, 1901.

Charles Lewis Urlichs. Codex urbis Romae topographicus. 1871.

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Gori and Parker. The ancient streets of Rome and roads in the suburbs; — a lecture. Rome, 1869. 8vo. Pamphlet.

Ludwig Preller. Die Regionen der Stadt Rom; nach den besten Handschriften berichtet, etc. Jena, 1846. 8vo.

Rev. Richard Burgess. Topography and antiquities of Rome, including the recent discoveries made about the Forum and Via Sacra. London, 1831.

Canina. Indicazione topografica di Roma antica distribuita nelle XIV regioni. 3a ed., Roma, 1844. 1a ed., 1831. 8vo. — Out of date.

Sir William Gell. Topography of Rome and the Campagna.

Nardini. Roma antica. Edizione quarta romana . . . accresciuta . . . di Antonio Nibby. Roma, Stamperia de Romanis, 1808. 2 vols. 8vo. — A celebrated work principally on the topography of Rome. It is of value for the descriptions of ruins that have since disappeared. Other editions by Ottavio Falconiere (Roma, 1666), etc. The original edition (Roma, 1566) contained a few engravings of the pyramid of Cestius, etc.

Ridolfino Venuti. Accurata e succinta descrizione topografica delle antichità di Roma. 2d ed., Roma, 1803. 2 vols. Folio.

Andrew Lumisden. Remarks on the antiquities of Rome and its environs, being a classical and topographical survey of the ruins. . . . London, W. Buhner & Co., 1797. A 2d edition was issued in 1812. — A resumé of the topography known at the period with a few mediocre engravings, plans, etc.

Marliani. [Topography of Rome in Latin.] — "The first work of which the text was illustrated with engravings." (Hemans.)

EXCAVATIONS

Rodolfo Lanciani. Storia degli scavi di Roma e notizie intorno le collezioni romane di antichità. Roma, Ermanno Lœscher & Co., 1902 seq. Folio. — A work of admirable scholarship; highly valuable for reference.

Rodolfo Lanciani. Architectural results of the latest excavations in the Forum at Rome. (In Royal Institute of British Architects, Journal, 1901, ser. 3, vol. 8, p. 25, seq.)

Rodolfo Lanciani. Nuovi scavi nel Foro Romano. Roma, Salviucci, 1882. 4to. — A good account.

Th. Gsell-Fels. Römische Ausgrabungen im letzten Decennium. Die Callistus Katakomben — Der Palatin — Die Unterkirche S. Clemente. Hildburghausen, Bibliographisches Institut, 1870. 4to. — A good pamphlet, but recent excavations have put out of court several of Gsell-Fels's theories.

J. H. Parker. Notices on recent excavations in Rome. (In Archæologia, vol. 42, pp. 1–26.)

J. H. Parker. Roman Exploration Fund. Excavations in Rome in the season 1870–71; a lecture. London, 1871. Pamphlet.

P. E. Visconti. Relazione degli retrovamenti di antiche cose seguiti in Roma e suoi dintorni dal principio dell' anno 1823 . . . (In Accademia romana di archeologia, Dissertazioni, 1885, vol. 2.)

Giuseppe Valadier. Narrazione artistica dell' operato finora nel restauro dell' Arco di Tito letta . . . 20 decembre, 1821. (In Accademia romana di archeologia, Dissertazioni, 1823, vol. 1, part 2.)

ARA PACIS AUGUSTAE

Eugene Petersen. Ara Pacis Augustae. Wien, Alfred Hölder, 1902. Folio. — A sufficient publication.

ARCH OF CONSTANTINE

Anonymous. Arco di Constantino. 1807. [No place.] — Small drawings of this monument.

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ARCH OF TITUS

Hadriani Relandi. De spoliis templi Hierosolymitani in Arcu Titiano. Trajecti ad Rhenum, ex libraria Guilielmi Broedelet, 1716. — More curious than instructive.

BASILICA JULIA

Tocco. Della Basilica Giulia e dei presenti scavi del Foro. 1872.

Stefano Piale. Della Basilica Giulia male situata da moderni nel Foro Romano. Roma, Crispino Puccinelli, 1833. 4to. Pamphlet. — Piale's contentions have all subsequently been disproved by excavations.

BASILICA ULPIA

Lesueur. La Basilique Ulpienne (1823). Restaurations des monuments antiques par les pensionnaires de l'académie de France à Rome. Paris, Firmin-Didot & Cie., 1877. Folio. — Splendid drawings, but the restorations are incorrect.

Angelo Uggeri. Della Basilica Ulpia nel Foro Trajano istoria e ristaurazione agli amanti delle antichità romane. [Roma, 1840?.] Folio. — Splendid measured drawings. The restorations, however, are open to question.

BRIDGES

Stefano Piale. Degli antichi ponti di Roma. Roma, Crispino Puccinelli. 4to. Pamphlet. — Not up to date.

CAMPUS MARTIUS

G. B. Piranesi. Campus Martius antiquae urbis. Romae, 1762. — Very grandiloquent plates.

CAPITOL

Rodocanachi. Le Capitol romain, antique et moderne. Paris, Hachette et Cie., 1904. 4to.

M. Vermehren. Der capitolinische Jupitertempel in Rom. Jahresbericht über das grossherzogliche Gymnasium. Jena, A. Neuenhalm, 1879. Progr. No. 569.

H. Jordan. Capitol, Forum, und Sacra Via in Rom. Berlin, Weidmannsche Buchhandlung, 1881. 8vo. Pamphlet. — A readable sketch.

Luigi Canina. Ragionamento, sul clivo, sulla posizione, e sull' architettura del tempio di Giove capitolino. (In Accademia romana di archeologia, Dissertazioni, 1835, vol. 6, pp. 151–178.)

CIRCUS OF MAXENTIUS

Luigi Canina. Sul circo edificato da Adriano vicino al suo mausoleo per celebrare il natale di Roma nell' anno 874; dissertazione. (Accademia romana di archeologia, Dissertazioni, 1842, vol. 10, pp. 431–470.)

Rev. Richard Burgess. Description of the circus on the Via Appia near Rome with some account of the Circensian games. London, 1828. 12°.

COLOSSEUM

G. B. Cipriani. Anfiteatro Flavio, detto il Colosseo. Roma, 1801. 4to. — Small measured drawings.

Pietro Bianchi. Osservazioni sull' arena e sul podio dell' Anfiteatro Flavio, illustrate e difese da Lorenzo Re. (Accademia romana di archeologia, Dissertazioni, 1823, vol. 1, part 2, pp. 125–156.)

Fabio Gori. Le memorie storiche, i giuochi, e gli scavi dell' Anfiteatro Flavio ed i pretesi

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martiri cristiani del Colosseo. Roma, Francesco Capaccini, 1875. 12°. — A literary account of what has taken place in the colosseum.

Giovanni Marangoni. Delle memorie sacre e profane dell' Anfiteatro Flavio di Roma volgarmente detto il Colosseo, dissertazione. Roma, 1746. 8vo.

COLUMN OF ANTONINUS

Dominique Magnan. Calcografia della colonna Antonina. Roma, 1779. Folio.

G. P. Bellori. Columna Antoniniana. Roma, apud auctorem, [1672]. Folio. — A number of very good drawings.

COLUMN OF MARCUS AURELIUS

Peterson, Domaszewsk, Calderini. Die Marcussäule auf Piazza Colonna in Rom. München, F. Bruckmann, 1896. — A superb monograph with beautiful plates.

COLUMN OF TRAJAN

W. Froehner. La Colonne Trajane d'après le surmoulage exécuté à Rome en 1861–62. Paris, J. Rothschild, 1872–74. 4 vols. Folio. — A superb work, beyond question the best on this subject.

Conrad Cichorius. Die Reliefs der Traianssäule, hrsg. und historisch erklärt. Berlin, 1896–1900. 3 vols. 8vo. and Folio. — A monumental work.

Percier. La Colonne Trajane. (1788.) Restaurations des monuments antiques par les pensionnaires de l'académie de France à Rome. Paris, Firmin-Didot et Cie., 1877. — Excellent.

G. B. Piranese. Trofeo: — o sia, magnifica colonna di. . . . Trajano, colle colonna del apoteosi di Antonino Pio e colonna antonina. [Rome, 1770 ?.] Folio. — Magniloquent drawings.

John Hungerford Pollen. A description of the Trajan Column. London, Chapman & Hall, 1874. 8vo. — A guide to the casts in South Kensington Museum, containing much pertinent information in inexpensive guide-book style.

Salomon Reinach. La Colonne Trajane au Musée de St. Germain. Paris, Ernest Leroux, 1886, 24°. — A very brief and somewhat inexact guide to the sculptures.

CURIA JULIA

R. Lanciani. L'aula e gli uffici del senato romano. (Curia Hostilia Julia, Secretarium Senatus). Roma, Salviucci, 1883.

Urlichs. De Curia Julia et continentibus aedificiis. (In Nuove mem. dell' Istituto, 1865, p. 77 et suiv.)

M. J. Gatteschi. Forum Romain, avec la Curia et la Basilica Aemilia. Restauration.

THE FORA [1]

R. Thiele. Das Forum Romanum mit besonderer Rücksichtigung der neuesten Ausgrabungen. 2. Aufl., Erfurt, K. Villart, 1906.

Richard Delbrück. Die drei Tempel am Forum Holitorium in Rom. Roma, E. Lœsche & Co., 1903. — An important monograph on the ruins imbedded in S. Nicola in Carcere.

H. Thédenat. Le Forum Romain, et les forums impériaux. 1st ed., Paris, 1898. 2d ed., 1900. — Excellent.

H. Jordan. Capitol, Forum, und Sacra Via in Rom. Berlin, Weidmannsche Buchhandlung, 1881. 8vo. Pamphlet. — A readable sketch.

F. Dutert. Le Forum Romain et les Forums de Julius César, etc. Paris, A Lévy, 1876. Folio. — Excellent plans and restorations, remarkably clear, but not quite up to date.

A. N. Normand. Restauration du Forum Romain; le temple de Vespasien. . . . (In L'ami des monuments et des arts, 1890, vol. 4, p. 316; 1891, vol. 5, p. 14 seq.)

[1] See also work of Ch. Huelsen quoted above, p. 384.

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A. N. Caristie. Plan d'une partie du Forum Romain et des monuments sur la voie Sacrée. Paris, 1821. Folio.

Louis Borsari. Le Forum Romain selon les dernières fouilles. Rome, Officina Poligrafica Romana, 1903, 24°. — A concise and remarkably accurate guide to the Forum.

M. J. Gatteschi. Mont Capitolin, Forum Romain, et Forum des Empereurs. Restaurations.

M. J. Gatteschi. Forum Romain, avec la Curia et la Basilica Aemilia. Restauration.

D. Vaglieri. Gli scavi recenti nel Foro Romano.

L. R. C. Le Forum Romain. (Le Musée III, 1906, p. 215.)

P. Kiraby. Das Forum Romanum. Erzsebet varos Programm, 1906. 8vo. (Hungarian.)

Ferdinando Albertolli. Fregi trovati negli scavi del Foro Trajano con altri esistenti in Roma ed in diverse città d'Italia. Milano, 1824. Folio. — Twenty-five plates.

F. M. Nichols. Roman Forum. London, 1877. 8vo. — "Confond le Forum et les comices et place mal les rostres." (Marucchi.)

Ravioli. Ragionamento sul Foro Romano. 1859.

Montiroli. Sulla parte meridionale del Foro Romano. 1859.

Tocco. Ripristinazione del Foro Romano. 1859.

Nibby. Il Foro Romano in Roma nell' anno 1838. Roma, 1839. Parte II. Antica, pp. 40–180.

Luigi Canina. Sul Porto Neroniano di Anzio e sui rostri del Foro Romano dissertazione. (In Accademia romana di archeologia, Dissertazioni, 1838, vol. 8, p. 93 seq.)

Bunsen. Le Forum Romain. (In Bullettino del Ist. di corrisp. archeol., 1835.)

Canina. Descrizione storica del Foro Romano. Roma, Canina, 1834. 4to. — The illustrations are few and untrustworthy.

Stefano Piale. Del Foro Romano. Rome, Crispino Puccinelli, 1832. 4to. Pamphlet. — Of slight value for historical research.

Christian Müller. Das Forum Romanum. Stuttgart und Tübingen, J. G. Cotta, 1824. 4to.

Fea. Indicazione topografica del Foro Romano. 1818.

Nibby. Del Foro Romano. Roma, Vincenzo Poggiole, 1819. 8vo. — Of value for historical research.

François Pollet. Historia Fori Romani: restituta illustrata et aucta per Philip Broidaevum, etc. Lugduni, apud Franciscus Fenraeum, 1587. 12°.

HOUSE OF THE VESTALS

Orazio Marucchi. Nuova descrizione della casa delle Vestali. 1887.

F. M. Nichols. Some remarks upon the Regia, the Atrium Vestæ, and the original locality of the Fasti Capitolini. (In Archæologia, vol. 50, p. 227, seq.)

PALACES OF THE CAESARS

E. Haugewitz. Der Palatin, seine Geschichte und seine Ruinen. Mit Vorwort von Chr. Hülsen. Rom. E. Loescher & Co., 1901.

H. Deglane. Le palais des Césars au Mont Palatin. (In Gazette archéologique XIII, 1888, pp. 124, 145, 211.) — An important study.

Jordan. Die Kaiserpaläste in Rom. 1868.

M. J. Gatteschi. Summa Sacra Via, Porticus Margaritaria, et Clivus du Palatin. Restaurations.

Gori. Sugli edifizi palatini. 1867.

Bianchini. Del Palazzo de' Cesari, opera postuma. Verona, 1738. Folio. 20 pl. — Text in Italian and Latin.

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PANTHEON

Luca Beltrami. Il Pantheon. La struttura organica della cupola e del sottostante tamburo; le fondazioni della Rotonda, dell' avancorpo, e del portico; avanzi degli edifici anteriori alle costruzioni adrianee. Coi relievi del Pier Olinto Armanini. Milano, Umberto Allegretti, 1898. 4to. — A clear and worthy publication of Chedanne's discoveries — discoveries which have revolutionized our knowledge of the most famous of Roman buildings. This work is indispensable to the serious student of this monument.

R. Phené Spiers. Monsieur Chedanne's drawings of the Pantheon, Rome. Summary of his report to the Académie des Beaux-Arts. (Journal of the Royal Institute of British Architects, 1894–95, 3d series, vol. 2.) — An excellent summary of the afore-mentioned work.

T. F. Luys. Le Panthéon de Rome; détail du péristyle de ce temple ancien. Bruxelles, M. Hayez, 1838. Folio. — Superb measured drawings.

Frederick Adler. Das Pantheon zu Rom. 31es Programm zum Winckelmannsfeste. Berlin, W. Hertze, 1871. 4to. Pamphlet. — The archæology is entirely out of date, but the article is of value as a study of the persistence of certain Roman motives in the Middle Ages.

R. Lanciani. Il Pantheon e le Terme di Agrippa. Prima e secunda relazione. Roma, Salviucci, 1882. — An important work, though Lanciani's thesis has now been disproved.

Count Nipsi-Landi. Marco Agrippa e i suoi tempii; — le Terme ed il Panteon. Rome, 1883. Folio.

V. A. Blavette. Étude sur le Panthéon de Rome, restauration de la palestre des Thermes d'Agrippa. (In Mélanges d'archéologie et d'histoire, 1885.)

Stefano Piale. Del corpo rotondo del Panteon di Agrippa. Roma, Crispino Puccinelli, 1834. 4to. Pamphlet. — Since M. Chedanne's discoveries this publication has lost all value.

Stefano Piale. Delle cariatidi di Diogene Ateniese. Roma, Crispino Puccinelli, 1834. 4to. Pamphlet. — Piale's contention is now known to be erroneous.

C. Fea. Dei diritti del principato sugli edifizi publici . . . in occasione del Panteon di Marco Agrippa. Roma, 1806. 8vo.

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[1] Arch of Janus Quadrifrons.

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[1] See also works quoted in the Roman bibliography, p. 395. For Egypt, see below under *Coptic.*

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Pietro d'Onofri. Succinte notizie intorno alla facciata della chiesa cattedrale napoletana. Napoli, [XVIII century]. 4to. — Not important from an Early Christian standpoint.

Gaetano Nobile. Descrizione della città di Napoli e delle sue vicinanze. Napoli, 1863. 12°. — Worthless.

Alexii Symmachi Mazochii. Dissertatio historica de cathedralis ecclesiae Neapolitanae. Neapoli, 1751. 4to. — A Latin treatise.

PARENZO

Lolide. Ueber den Dom von Parenzo. (In Zeitschrift für Bauwesen, 1859.)

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Symonds e Gordon. Perugia, la sua storia, i suoi monumenti; prima traduzione italiana. Perugia, 1901. 12°.

O. Scalvanti. [S. Angelo of Perugia.] (Rassegna d'Arte, 1902, p. 53.)

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G. B. de Rossi e Lanciani. [Ueber die Basiliken in Porto.] (Bull., 1866.)

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The monographs on Ravenna are so numerous that they are listed separately below.

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The monographs on Rome are so numerous that they are listed separately below, p. 402.

SPOLETO

G. B. de Rossi. [Ueber S. Agostino in Spoleto.] (Bull., 1871.)

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Corrado Ricci. Ravenna. Bergamo, Instituto italiano d'arti grafiche, 1902. 4to. Collezione di monografie illustrate. Serie Ia. Italia artistica. I. Ravenna. — A popular monograph of the best class with fine illustrations in half-tone.

Corrado Ricci. Ravenna e i suoi dintorni. Ravenna, Antonio e Gio. David, 1878. 12°. — An excellent study, without illustrations, containing many extracts from the original sources.

Charles Diehl. Ravenna. Études d'archéologie byzantine. Paris, J. Ronam, 1886. 4to. Bibliothèque d'art ancien. — A colorless account of some of the well-known facts in regard to the monuments of Ravenna.

J. R. Rahn. Ueber die altchristlichen Bauten Ravennas. Leipzig, 1869. 8vo. — Well known.

J. R. Rahn. Ein Besuch in Ravenna. (In Jahrbücher für Kunstwissenschaft, 1868, vol. 1, pp. 163–182, 273–321.)

R. Lanciani. [Ueber die altchristlichen Bauten Ravennas.] (In Bull. Crist., 1866.)

Giuseppe Bard. Dei monumenti d'architettura bizantina in Ravenna. Traduzione dal francese. Ravenna, Seminario, 1844. 12°. — Unimportant.

A. F. von Quast. Die altchristlichen Bauwerke von Ravenna, von V. bis IX. Jahrhundert. Berlin, 1842.

Edouard Gerspach. Ravenne et Bologne; carnet de voyage. (In Revue de l'art chrétien, 1899, vol. 48, p. 393 seq.)

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G. Rossi. Hist. Ravenna. Venetiis, ex typographia Guerrea, 1589.

Abbé Crosnier. Ravenne et ses monuments. (In Bulletin Monumental, 1859, vol. 25, pp. 514 seq., 665 seq.) — Gossipy.

Antonio Zirardini. Degli antichi edifizii profani di Ravenna libri due. Faenza, 1762. 8vo.

ACCOUNTS OF PARTICULAR BUILDINGS

Franz Wickhoff. Das Speisezimmer des Bischoffs Neon von Ravenna. (In Repertorium für Kunstwissenschaft, 1894, vol. 17, pp. 10–17.)

Laudedeo Testi. Intorno ai campanili di Ravenna. (In l'Arte, 1903, vol. 6, pp. 165–179.)

J. Durm. Das Grabmal des Theoderich zu Ravenna. (Zeitschrift für bildende Kunst, N. F., Bd. 19, 1905–06, p. 245.)

J. P. Richter. Die Mosaiken von Ravenna; Beitrag zu einer kritischen Geschichte der altchristlichen Malerei. Wien, 1870. 8vo.

Rohault de Fleury. Note sur St. Apollinaire de Ravenne et les reprises en sous-œuvre du XVI^e^ siècle. (In Revue de l'art chrétien, 1898, vol. 47, pp. 198–201.)

Rinaldo Rasponi. Ravenna liberata dai Goti, o, sia opuscolo sulla rotonda di Ravenna provata edifizio romano, ne mai sepolcro di Teodorico re de Goti. . . . Ravenna, 1766. 4to.

Paolo Gamba Ghiselli. Lettera sopra l'antico edificio di Ravenna, detto volgarmente la Rotonda. Roma, 1765. 8vo.

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Liber Pontificalis. This celebrated manuscript, published by Muratori in the third part of his *Rerum italicarum scriptores*, contains biographies of all the popes up to Anastasius († 498). Other manuscripts continue the list to Constantine († 714). Guillaume le Bibliothécaire made a further continuation in the XII century (Bib. Vat. cod. lat. 3762). — The work is important for many references to the construction and repair of various churches.

Martyrologies. "Le Martyrologe hiéronymien, compilation exécutée en Italie vers le milieu du v^e^ siècle, puis transportée en France, où elle fut, vers l'an 590, à Auxerre, l'objet d'une recension de laquelle dérivent tous les manuscrits actuellement existants. Ces différents manuscrits ont été classés et trois d'entre eux intégralement publiés par Mm. de Rossi et Duchesne dans le 2me volume de novembre des Bollandistes. Le martyrologe d'Asie Mineure nous est parvenu aussi dans une traduction syriaque récemment découverte par Wright dans un manuscrit de l'an 412." (Marucchi.) — Contain important references to various Early Christian monuments at Rome.

D. Ruinart. Acta primorum martyrum sincera et selecta. — Perhaps the most accessible book in which to study the architectural references of the Acts of the Martyrs.

Dufourcq. Étude sur les *Gesta martyrum* romains. 1900. — A criticism of this work by P. Franchi de Cavalieri appeared in the Nuovo Bullettino, 1900, pp. 205–234.

William of Malmesbury. Gesta regum Anglorum. — Includes an important itinerary of Rome.

De locis SS. Martyrum, quae sunt foris civitatis Romae. — A medieval itinerary discovered at the end of the XVIII century in the library at Würzburg and published by Eckart. It is an ancient guide more complete than the Itinerary of Einsiedeln. (Marucchi.)

Itinerary of Einsiedeln, also known as Anonyme de Mabillon; published by Mabillon, *Vetera analecta*, tome IV. — Important.

Lanciani. L'itinerario di Einsiedeln e l'ordine romano di Benedetto canonico. Roma, 1891.

Cencius Camerarius. Liber censum. [End of the XII century]. — The critical edition commenced by Paul Fabre has been continued by Mgr. Duchesne.

Ms. de Nicolas Signorili [sur les églises de Rome, dédié au pape Martin V]. (Cod. vat. lat. 3536.)

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Capitularia Evangeliorum. Published by Fronto (Hamburgi, 1720), Martène (Thesaurus novus anecdotorum, 1717, Vol. V), Tomasi (Codices Sacramentorum, 1680), and Giorgi (Liturgia rom. pont. Vol. III). — Contains topographical indications.

Notitia ecclesiarum urbis Romae. Published in 1777 by the monks of St. Emmerau at Salzburg, but there is a better publication by De Rossi.

Sacramentaries. I. Leonian. Roman, VI century. Published by Bianchini (1735), by the brothers Ballerini in the works of St. Leo, and by Muratori in Liturgia romana vetus (1748). II. Gelasian, French, of the VI and VIII centuries, published by Tomasi in Codices Sacrementorum (1680) and by Muratori in Liturgia Romana vetus (1748). III. Gregorian. — These books of ritual contain some topographical indications, but are useful principally for the study of church furniture, etc.

Alberto Reimaro. Abgebildetes neues Romm, darinnen die heute verhandene Kirchen, Palläste, Gebäwe, Gemählde . . . auss dem italienischen ins hochteudsche . . . übersetzt. Ärnhem, 1662.

Itinerary of John the Priest. — An important source, being a catalogue of the tombs of the martyrs in Rome visited by the messenger of Queen Theodelinda. Published by Marini, I papiri diplomaticchi raccolti ed illistrati. (Rome, 1805.)

Dartein. Le rovine de Roma. Studî del Bramantino (Bartolomeo Suardi). Milano, Mongeri, 1875. 4to. — "Raccolta di disegni, tra cui di parecchi edificie a pianta centrale non più esistenti" (Venturi). "Sehr interessante Grundrissaufnahmen von meist nicht mehr bestehenden Zentralbauten." (Dehio.)

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G. B. de Rossi. Il museo epigrafico cristiano pio-lateranense. Roma, 1878.

L. Duchesne. Notes sur la topographie de Rome au moyen-âge. (In Mélanges d'archéologie et d'histoire, 1886, pp. 25–37, 1889, 1890.)

L. Duchesne. Les légendes chrétiennes de l'Aventin. (In Mélanges de l'École Française, tome X, et le Bulletin critique, 1889, p. 263.)

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R. Lanciani. Pagan and Christian Rome. Boston and New York, Houghton, Mifflin & Co., 1893. — A gossipy account, but of value.

R. Lanciani. The destruction of ancient Rome.

Bunsen, Guttensohn, und Knapp. Die Basiliken des christlichen Roms. Stuttgart und München, 1822 und 1843. 4to und 2°. — The drawings are of great value.

A. de Waal. Roma Sacra. Die ewige Stadt in ihren christlichen Denkmäler und Erinnerungen alter und neuer Zeit. München, Allgemeine Verlags- Gesellschaft, 1905. 8vo.

Émile Bertaux. Rome. Des catacombes à Jules II. (Villes d'art célèbres series.) Paris, Laurens. 4to.

E. Platner, C. Bunsen, et als. Beschreibung der Stadt Rom. Stuttgart und Tübingen, 1829–42. 3 vols. 8vo.

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Marchi. I monumenti delle arti cristiane primative nella metropoli del cristianesimo. Roma, 1844.

Charles Isidore Hemans. Historic and monumental Rome. A handbook for the students of classical and Christian antiquity in the Italian capital. London and Edinburgh, William and Norgates, 1874. 4to. — Contains a chapter on illustrative literature — otherwise the work is of little value.

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John Henry Parker. The archæology of Rome. London, John Murray, 1879. 8vo. 12 vols.: I. The primitive fortifications. II. The walls and gates of Rome. III. The historical construction of walls. IV. The twelve Egyptian obelisks. V. The Forum Romanum et Magnum. VI. The Via Sacra. VII. The Colosseum at Rome. IX and X. Tombs in and near Rome. Mythology in funeral sculpture and Early Christian sculpture. XI. Church and altar decorations in Rome. XII. The Catacombs. XIII and XIV. Early and medieval castles: the Temple of Rome and the marble plan of Rome. — Well meaning, but not a work that will be found particularly helpful.

Francis Wey. Rome. New York, Appleton & Co., 1872. Folio. — A tiresome description.

Rev. Stephan Weston. Viaggiana; or detached remarks on the buildings, pictures, statues, inscriptions, etc., of ancient and modern Rome. London, 1790. 12°. — Quite worthless.

Anonymous. Rome: histoire de ses monuments. Cîteaux, Imprimerie St. Joseph, 1890. 8vo. — "Ce livre est destiné tout spécialement à la jeunesse."

BOOKS OF ILLUSTRATIONS

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Turconi. Fabbriche antiche di Roma. Milano, Tipografia Molino, 1857. Folio. — Good drawings of Sta. Costanza and S. Stefono Rotondo.

Vasi. Delle magnificenze di Roma antica e moderna . . . disegnate ed incise in rame . . . con una spiegazione istorica di tutte le cose notabili composta dal G. Bianchini. Roma, 1747–61. 10 vols. — A very famous work in its day. Some of the engravings are good.

[*Dominique Magnan.*] La ville de Rome. Rome, Archange Casaletti, 1778. Folio. 4 vols. — Many fair woodcuts.

Anonymous. Raccolta di 320 vedute si antiche che moderne della città di Roma. Roma, Agapito Franzetti a Torsanguigna, [c. 1780 ?]. — A collection of small and mediocre engravings of Rome ancient and modern.

Domenico Pronti. Nuova raccolta di 100 vedutine antiche della città di Roma. Roma, Presso il sud°, 1795. 2 vols. 4to. — A collection of small and mediocre engravings.

Giovanni Cassini. Nuova raccolta delle megliori vedute antiche e moderne di Roma. Roma, 1775. Folio. — A collection of small and poor engravings.

GUIDE-BOOKS[1]

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M. A. R. Tucker. Handbook to Christian and ecclesiastical Rome.

Anonymous. Nouvelle description de Rome et des environs d'après les ouvrages de Nibby, Vasi, etc. Rome, S. Piale, 1854. 2 vols. 12°. — A guide excellent in its day, now out of date.

Jeremiah Donovan. Rome, ancient and modern, and its environs. Rome, Crispino Puccinelli, 1842. 4 vols. 8vo. — A very copious guide-book, now, of course, behind the times.

Humphreys and Cooke. Rome and its surrounding scenery. London, Charles Tilt, 1840. 4to. — Half guide, half book of travel.

[1] See also Roman bibliography, p. 384.

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C. Fea. Description de Rome traduite de l'Italien et . . . publiée par A. Bonelli, Rome, 1821. 3 vols. 12°. — A guide-book whose day of usefulness has passed.

G. B. Cipriani. Degli edifici antichi e moderni di Roma veduti in contorno. Roma, 1817. 2 vols.

J. Salmon. An historical description of ancient and modern Rome. London, J. Taylor, 1800. — The illustrations are small.

Pietro Rossini. Il Mercurio errante. Roma, Fausto Amidei, 1750. 24°. — An early guide-book.

Anonymous. Roma antica e moderna. Roma, Niccola Roisecco, 1745. 3 vols. 12°. — A guide-book with inaccurate engravings.

François Léon. Les merveilles de la ville de Rome où est traité des églises, stations, et reliques des corps des saints, etc. Rome, Jean François de Buagni, 1690. 12°. — One of the very earliest of the guide-books, illustrated with inaccurate engravings.

THE SEVEN BASILICAS

Marie-Théodore de Bussierre. Les sept basiliques de Rome. Paris, Jacques Lecoffre et Cie., 1846. 2 vols. 8vo. — Out of date.

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COLUMN OF PHOCAS

F. M. Nichols. Revised history of the Column of Phocas in the Roman Forum. (In Archæologia, vol. 52, p. 183 seq.)

S. AGATA DEI GOTI

Marucchi. S. Agata dei Goti. (In Giornale arcadico, 1891.)

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S. GIOVANNI-AVANTI-ALLA-PORTA-LATINA

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Friedrich Wilhelm Unger. Quellen der byzantinischen Kunstgeschichte. Ausgezogen und übersetzt. Wien, Wilhelm Braumüller, 1878. 8vo. Vol. XII of series Quellenschriften für Kunstgeschichte. — The passages of the Byzantine authors bearing on art history are grouped together and translated into German. An adequate bibliography is included. This is a valuable work, especially when used in conjunction with Richter.

Charles Ducange. Constantinopolis cristiana. Lutetiae Parisiorum, 1680. — Ducange was the first to work out the sources for the history of the building of Hagia Sophia. Later writers have founded their work largely on this book, which, however, contains several inaccuracies, and has to a certain extent been superseded by the works of Richter and Unger.

Procopius. Opera. Ex recensione Guilielmi Dindorfii. Bonnæ. Impensis Ed. Weberi, 1838. 3 vols. 8vo. Corpus scriptorum historiae Byzantinae, vols. 18–20. — The works of Procopius are all valuable sources for architectural history. Especially the *De Ædificiis*, a work devoted exclusively to the buildings of Justinian, gives precious information for the history of buildings that have survived, and descriptions of many that have perished. An English translation by Aubrey Stewart has been published under the title: — Of the Buildings of Justinian (circ. 560 A.D.). Annotated by Col. Sir. C. W. Wilson, K. C. M. G. and Prof. Hayter Lewis. London, Palestine Pilgrims Text Society, 1886. — This translation, although occasionally misleading, may prove of help to the student unfamiliar with medieval Greek.

Procopius. The secret history of the court of the Emperor Justinian. Faithfully rendered into English. London, printed for John Barkesdale, 1674. 12°. — Very rare.

Pauli Silentiarii, Descriptio S. Sophiae et ambonis. Ex recognitione Immanuelis Bekkeri. Bonnæ, Impensis Ed. Weberi, 1837. 8vo. Corpus scriptorum historiae Byzantinae, vol. 32. With a Latin translation by Ducange, and a valuable Latin essay by the same author on the three descriptions in Procopius, Agathias, and Paulus Silentiarius. — The work of Paulus Silentiarius consists of two Greek poems, one of 1029 lines on the church itself, the other of 304 lines on the ambos. Both are important. There is a German metrical translation of certain parts published by Salzenberg in his *Altchristliche Baudenkmäler von Konstantinopel*, and reprinted by Richter.

Agathias. Historiarum [552–558] libri V cum versione latina et annotationibus Bon. Vulcanii. B. S. Niebuhrius. . . . Graeca recensuit. Accedunt Agathiae epigrammata. Bonnae, 1828. Corpus scriptorum historiae Byzantinae, vol. 1. — Agathias contains a description of Hagia Sophia which it is interesting to compare with those of Procopius and Paulus Silentiarius. An easily obtained partial edition of Agathias is: Auszüge aus Agathias Historien. (Die Geschichtschreiber der deutschen Vorzeit, 1885, 6tes Jahrhundert, vol. 3, pp. 327–337.)

Theophanes Isaurus. Chronographia, ex recensione Ioannis Classeni. Bonnae, Ed.

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Weberi, 1839–41. 2 vols. 8vo. In Corpus scriptorum historiae Byzantinae, vols. 39, 40. There are also several other editions. — This work is a source of some importance for Hagia Sophia, since it preserves certain facts, apparently copied from earlier authors now lost to us.

Anonymus Banduri. Imperium orientale sive antiquitates Constantinopolitanae. Parisiis, 1711. Pars tertia, Anonymus de S. Sophia. — A secondary source for Hagia Sophia and the history of its building. In many ways unreliable, but occasionally valuable for information apparently derived from earlier authors now lost to us.

Georgius Codinus Curopalates. Excerpta de antiquitatibus Constantinopolitanis ex recognitione Immanuel Bekkeri. Bonnae, 1843. 8vo. Corpus scriptorum historiae Byzantinae, vol. 46. — An author of the XV century and a secondary source of some importance for Byzantine art history.

Georgius Codinus Curopalates. De officialibus palatii Cosmopolitani et de officiis magnae ecclesiae liber (with Jacob Gretser's translation and commentary in Latin). Ex recognitione Immanuelis Bekkeris. Bonnae, Ed. Weberi, 1837. 8vo. Corpus scriptorum historiae Byzantinae, vol. 37. — An author of the XV century and a secondary source for Byzantine art history.

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[1] See Roman bibliography, p. 373.

[2] An account of Gerizim appeared in the Palestine Exploration Memoires, vol. 2, p. 189, 190.

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G. Helwich. Antiquitates Laurishaimenses, seu chronologia praeillustris, nobilis, ac famosi quondam monasterii s. Nazarii Laurishaimensis in Strata Montana siti. Francofurti, Typis Caspari Rötelii, 1631. — An important secondary source, which preserves an epitome of several manuscripts now lost.

Benvenuto da Imola Rambaldi. Liber Augustulis. (Rerum Germanicarum scriptores II.) — A late XIV century author and secondary source for Lombard buildings.

Michele Torre e Valvasine e Angelo Fumagalli. Delle antichità longobardiche milanese. 1792–93. — A secondary source for Lombard buildings.

Giorgi e Balzani. Il regesto di Farfa di Gregorio di Catino. — A source for S. Pietro, Toscanella.

Brunetti. Codice diplomatico toscano. — A source for S. Pietro of Toscanella.

Muratori. Dissertazioni sopra le antichità estense ed italiane. Modena, Stamperia Ducale, 1717. Folio. — Useful as a source.

Giovanni Antonio Castiglione. Mediolanenses antiquitates ex urbis paroeciis collectae, ichnographicis ipsarum tabulis . . . illustratae. Mediolani, 1625. 8vo. — A secondary source for the Lombard monuments of Milan.

HISTORICAL ACCOUNTS

D. Ramée. De l'état de nos connaissances sur les édifices antérieurs à l'an mil. Paris, 1882.

Henri Hübsch. Monuments de l'architecture chrétienne depuis Constantin jusqu'à

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Charlemagne. Traduit par l'abbé Guerber. Paris, 1866. Folio. — "In questa ragguardevole opera, l'Hübsch . . . non seppe portare la minima luce nella storia artistica dei secoli barbari . . ." (Cattaneo.)

Reginald Bloomfield. Studies in architecture. London, Macmillan & Co., 1905. 8vo. — A collection of architectural essays, the first of which contains a criticism of Sig. Rivoira's book and an account of Hagia Sophia.

Bobeau. Influences architecturales de la basilique St. Martin de Tours et des abbayes bénédictines. (Bulletin archéologique, 1907, pp. 6–8.)

J. de Baye. Études archéologiques. Époque des invasions barbares. Industrie longobarde. Paris, Librairie Nilsson, 1888. Folio. — A valuable study of the industrial ornament of this obscure period.

Le Noir. Architecture monastique. Paris, 1802–56. 2 vols. 4to.

Rohault de Fleury. La Messe; études archéologiques sur ses monuments. Paris, 1883–89. 8 vols. Folio. — "Forse avrebbe evitato parecchi gossi errori . . . se innanzi di mettersi alla ricerca dei particolari più che altro decorativi che doveano servire alla sua opera, avesse studiato a fondo vari monumenti architettonichi." (Cattaneo.)

De Baudot. Églises de bourgs et de villages.

Aubert. Architecture carolingienne. (In Mémoires de la Société des Antiquaires de France, 1883.)

WORKS OF REFERENCE

Martigny. Dictionnaire des antiquités chrétiennes. 2me édition, Paris, 1877.

B. WORKS COVERING CERTAIN ASPECTS OF THE FIELD

GERMANY, AUSTRIA, SWITZERLAND

Paul Clemen. Die Kunstdenkmäler der Rheinprovinz. Düsseldorf, L. Schwann, 1892. 8 vols. 4to. — A most scholarly study of the monuments of the Rheinland with excellent bibliographies.

Heinrich Bergner. Handbuch der kirchlichen Kunstaltertümer in Deutschland. Leipzig, Tauchnitz, 1905. 4to. — A very scholarly work, touching on Carolingian architecture.

E. Förster. Denkmäler deutscher Baukunst. Leipzig, T. O. Weigel, 1855. Folio. Vol. 1 contains good accounts of several Carolingian buildings. There is a French translation in four volumes, quite equal to the original, published under title "Monuments d'architecture. . . de l'Allemagne." Paris, A. Morel et Cie., 1859. Folio.

Moller. Denkmäler deutscher Baukunst. Darmstadt und Leipzig, C. W. Leske, no date. Folio. — A work with fine drawings in part on Carolingian architecture.

Dohme. Geschichte der deutschen Baukunst. Vol. 1 of Geschichte der deutschen Kunst. Berlin, G. Gote, 1887. 4to. — Contains a chapter on Carolingian architecture, still useful, though not altogether up to date.

Heinrich Otte. Geschichte der romanischen Baukunst in Deutschland. Leipzig, T. O. Weigel, 1874. 4to. — Contains a conscientious account of the architecture of the Dark Ages in Germany.

E. aus'm Weerth. Kunstdenkmäler des christlichen Mittelalters in den Rheinländen. Leipzig, O. Weigel, 1857. 3 vols. and atlas. Folio. — A learned work in small part on architecture.

L. Puttrich. Denkmale der Baukunst des Mittelalters in Sachsen. Leipzig, F. A. Brockhaus, 1836–43. 4 vols. Folio. — Contains fairly good drawings of Gernrode.

Kallenbach. Chronologie der deutschmittelalterlichen Baukunst. 2te Auflage, München, J. C. Cotta, no date. — Gives little information on the Carolingian period.

Schrieber. Denkmäler deutscher Baukunst des Mittelalters am Oberrhein.

G. Humann. Die Kunst des X Jahrhunderts in Essen. (Kunst und Gewerbe XX, 1886, p. 360.)

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F. Ewerbeck. Architektonische Entwürfe und Bauausführungen. Berlin, Ch. Claesen & Cie., no date. Folio. — Well rendered restorations of the Dom at Aachen.

G. Humann. Die deutsche Kunst zur Zeit der sächsischen Kaiser. (Archiv für kirchliche Baukunst und Kirchenschmuck XII, 1869.)

Benkard. Die Reichspaläste zu Tribur, Ingelheim, und Gelnhausen. Frankfurt A/M, 1857.

C. A. Heider, Eitelberger von Edelberg, und Joseph Heiser. Mittelalterliche Kunstdenkmäler des österreichischen Kaiserstaates, 1858–60.

E. A. Freeman. On certain early Romanesque buildings in Switzerland and the neighboring countries. (In Royal Institute of British Architects, Papers, 1863–64, pp. 181–200.) — Deals principally with buildings later than 1000.

Fiorello. Geschichte der zeichnenden Künste in Deutschland.

C. L. Stieglitz. Von altdeutscher Baukunst. Leipzig, Gerhard Fleischer, 1820. Folio. — Of no value.

Blavignac. Histoire de l'architecture sacrée du IV au X siècles dans les anciens évêchés de Genève, Lausanne, et Sion. Paris, 1853. — "Most dangerous as a guide." (Freeman.)

ITALY

Raffaele Cattaneo. L'architettura in Italia dal secolo VI al mille circa. Venezia, Tipografia Emiliana, 1888. Folio. There is a French translation under title: "L'architecture en Italie du VI au XI siècle. Traduit par A. Cravellie. Venise, 1859. 8vo." There is also an English translation under title: "Architecture in Italy from the VI to the XI century. Translated by Countess Isabel Curtis. Venice, Cholmely in Bermani, 1889. 8vo."— A brilliant work, and on the whole the best account of the Carolingian period in Italy. It contains, however, several errors, and may not always be accepted without reservations.

G. T. Rivoira. Le origini della architettura lombarda e delle sue principali derivazioni nei paesi d'oltr'alpe. Roma, Ermanno Loescher e Co., 1901–7. 2 vols. Folio. — An elaborate work finely illustrated and for the Carolingian period on the whole reliable.

A. Venturi. Storia dell' arte italiana. To be complete in 6 volumes. Vol. II Del tempo de' Longobardi all' inizio dello stile nazionale. Milano, Ulrico Hoepli, 1902. 4to. — Especially valuable for the accessory arts.

F. de Dartein. Étude sur l'architecture lombarde et sur les origines de l'architecture romano-byzantine. Paris, Dunod, 1865–82. 2 vols. 4to and great folio. — "Questa voluminosa opera, pregevolissima per ciò che riguarda i monumenti dell' architettura lombarda nell' Alta Italia . . . é invece affatto inservibile per quanto ne concerne le origini." (Cattaneo.) This judgment is perhaps a little too harsh. The plates are still of great value.

Oscar Mothes. Die Baukunst des Mittelalters in Italien. Jena, Hermann Costenoble, 1882–84. 8vo. — "Grosse bugie sono . . . parecchi disegni da lui offerti al lettore, ove inventa monumenti che non esistono, crea rovine ideali e allunga, allarga, e complica a suo talento le piante di certe chiese! ! ! Dove può venire proficuamente consultato dagli studiosi si è nelle date di costruzioni, restauri, e riedificazioni dei monumenti che egli con ispeciale cura e diligenza raccolse e pubblicò." (Cattaneo.)

R. Garrucci. Storia dell' arte cristiana nei primi otto secoli della chiesa. . . . Prato, 1873–81. 6 vols. Folio. — "L'autore si mostra superficialissimo e affatto fuor di strada ove tocca dei lavori dell' età longobardica." (Cattaneo.) The work contains little on architecture proper, but deals largely with the accessory arts.

Pietro Selvatico. Le arti del disegno in Italia. Storia e Critica. Milano, Vallardi, 1880. 3 vols. 4to. — "Un lavoro nel quale la povertà e confusione dell' erudizione, le incredibili contraddizioni, e la copia degli errori, e delle colpevoli inesattezze aviebbo fatto per la sua buona fama ch'egli non vi si accingesse mai." (Cattaneo.)

Pietro Selvatico. Storia estetico-critica delle arti del disegno. Lezioni dette nella I. R. Accademia di Belle Arti in Venezia. Venezia, Pietro Naratorich, 1856. 2 vols. 8vo. — Far inferior to the same author's "Arte del disegno."

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C. MONOGRAPHS

Malvezzi. Le glorie dell' arte lombarda, ossia illustrazione storica delle più belle opere che produssero i Lombardi. Milano, Giacomo Agnelli, 1882. 8vo. — No illustrations. Not a scholarly work.

Celeste Clericetti. Ricerche sull' architettura religiosa in Lombardia dal V all' XI secolo. (Inserite nel Politecnico del 1862.) 1869.

Conte Cordero di S. Quintino. Dell' italiana architettura durante la dominazione longobardica. Brescia, 1829. — In its day an epoch-marking book, now entirely out of date.

Ciampini. Vetera monumenta. Rome, 1690–99. 2 vols. Folio.

Campanari. Tuscania e i suoi monumenti.

FRANCE

Edouard Corroyer. L'architecture romane. Paris, Maison Quantin, 1888. 12°. — A good elementary text-book.

Jules César Robuchon. Paysages et monuments du Poitou. Poitiers and Paris, Motteroz, 1890. Folio. — The illustrations are fine.

Bourassé et Chevalier. Recherches historiques et archéologiques sur les églises romanes en Touraine du VI au XI siècles. Tours, 1869. 4to.

Golbéry et Schweighaeuser. Antiquités de l'Alsace, ou châteaux, églises, et autres monumens des départemens du Haut- et du Bas-Rhin. Mulhouse, 1828. 2 vols. Folio.

Vasseur. De Normandie en Nivernais. (In Bulletin Monumental, 1868, vol. 34, pp. 601, 619.)

S. Beale. Roman and Romanesque France. (In American Architect and Building News, 1902–4, vols. 75–80, 84.)

DALMATIA

R. Eitelberger von Edelberg. Die mittelalterlichen Kunstdenkmale Dalmatiens in Arbe, Zara, Mona, Sebenico, Traù, Spalato, und Ragusa. Wien, Wilhelm Braumüller, 1884. 8vo. Vol. IV of the authors Gesammelte kunsthistorische Schriften. — A valuable study.

Jelic, Bulic, e Rutar. Guida di Spalato e Salona.

SPECIAL PHASES OF ARCHITECTURAL DEVELOPMENT

G. Dehio. Zwei Probleme zur Geschichte der Anfänge des romanischen Baustils. (In Repertorium für Kunstwissenschaft, 1893, vol. 16, pp. 217–229.) — Supplements the "Kirchliche Baukunst" on the questions of the origin of the chevet and the cruciform basilica.

Schlosser. Die abendländliche Klosteranlage des frühern Mittelalters. Wien, Carl Gerold's Sohn, 1889. 8vo. — An important study, but not always reliable.

ORNAMENTAL SCULPTURE

Mazzanti. La scultura ornamentale nei bassi tempi.

A. Marignan. Un historien de l'art français, Louis Courajod. Les temps francs. Paris, Émile Bouillon, 1899. 8vo. — A scholarly and important work on sculpture and the other arts.

THE COMACINI

Orlando. Delle fratellanze artigiane in Italia. — A study of the Comacini.

Troya. Codice diplomatico longobardo. — Contains interesting data bearing upon the Comacini.

Merzario. I maestri comacini.

C. MONOGRAPHS

AACHEN (AIX-LA-CHAPELLE)

Schervier. Die Münsterkirche zu Aachen und deren Reliquien. Aachen, Im Selbstverlage des Karls-Vereins, 1853. 12°. Pamphlet. — For its day, an excellent monograph.

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X. Barbier de Montault. La mosaïque du dôme à Aix-la-Chapelle. (In Annales Archéologiques, vol. 26, pp. 285–86.) — A masterly study of the lost mosaics of Aachen.

F. Bock. Das karolingische Münster in Aachen und die St. Gotthardskirche in Hildesheim in ihrer beabsichtigten inneren Wiederherstellung. Bonn, Henry und Cohen, 1859. 12°. Pamphlet. — A pleasant paper.

M. A. de Surigny. Huit jours à Aix-la-Chapelle. (In Bulletin Monumental, 1869, vol. 35, pp. 779 ff.) — An agreeable description of the cathedral.

Quix. Historische Beschreibung der Münsterkirche zu Aachen. Urlichs, 1825. 12°. — A curious little book, containing scraps of unusual information.

Mölten. Archäologische Beschreibung der Münsterkirche in Aachen. (Allgemeine Bauzeitung, 1840, p. 135, ff.)

F. Bock. Das Liebfrauenmünster in Aachen in seiner ehemaligen baulichen Entstellung und in seiner theilweise vollzogenen Wiederherstellung. Vortrag. Aachen, 1866. 4to. 22 pages.

Debey. Die Münsterkirche in Aachen in ihrer Wiederherstellung. 1851.

Mertens. Ueber das Münster zu Aachen. (In Wiener Allgemeine Bauzeitung, 1840, p. 135 f.)

F. Bock. Das Heiligthum zu Aachen. Köln und Neus, Schwan'schen Verlagsbuchhandlung, 1867. 4to. — A cheap book on the treasury and relics.

Martin. L'abbaye à Aix-la-Chapelle. (In Bulletin monumental X, 225.)

Heinrich Joseph Floss. Geschichtliche Nachrichten über die Aachener Heiligthümer. Bonn, Adolf Marcus, 1855. 8vo. — A study of the relics in the cathedral at Aachen.

Rhön. Die Kapelle der karolingischen Pfalz zu Aachen. (Ztschr. d. Aachener Gesch.-Ver. VIII, 1887.)

Lersch. Das Münster zu Aachen. (In Niederrheinisches Jahrbuch für Geschichte und Kunst, 1843, vol. 1, p. 77, p. 193.)

Beeck. Aquisgranum. 1640.

Anonymous. Souvenir d'Aix-la-Chapelle. Bruxelles, no date. 4to. — A series of twelve lithographs, including several of the cathedral.

Quix. Geschichte von Aachen. 1840.

Meyer. Aachen'sche Geschichten.

ANGERS

Guides Joanne. Angers. Paris, Librairie Hachette et Cie., no date. 12°. — Unsatisfactory for the monuments of the Carolingian period.

AUXERRE

Leclerc. Abbaye de Saint Germain. (In Annuaire statistique du département de l'Yonne, 1841, 3me partie, p. 3 ff.) — A conscientious study of the history of the abbey.

V. B. Henry. Histoire de l'abbaye de Saint Germain d'Auxerre. Auxerre, Ch. Gallot, 1853. 8vo. — A history of the abbots rather than of the abbey.

Lebeuf. Mémoire concernant l'histoire civile et ecclésiastique d'Auxerre et de son ancien diocèse, continuée par Challe et Quantin. 4 vols.

Chardon. Histoire de la ville d'Auxerre. 2 vols.

BEAUVAIS

Eug. J. Woillez. Archéologie des monuments religieux de l'ancien Beauvoisis pendant la métamorphose romane. Paris, Derache, 1839–49. Folio. — Contains an important account of the Basse Œuvre as well as many drawings of that monument. In regard to the chronology, Woillez is, of course, entirely misleading.

Ramé. La Basse Œuvre de Beauvais. (Bulletin du comité dès travaux historiques, 1882, p. 190.)

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F. C. Barrand. Beauvais et ses monuments pendant l'ère gallo-romaine et sous la domination franque. (In Bulletin monumental, vol. 27, pp. 29–64, 217–236, 294–316.) — Repeats the old errors in regard to the date of the Basse Œuvre.

Emm. Woillez. Notice historique et descriptive de la Basse Œuvre. (Mémoires de la société d'archéologie du département de la Somme, 1838, vol. 1.)

L. Pilian. Beauvais. Sa cathédrale, ses principaux monuments. Beauvais, H. Trezel, 1885. 12°. — Unreliable.

Victor Tremblay. Notice historique sur la ville de Beauvais et ses environs extraite du Dictionnaire statistique, historique, administratif, et commercial des villes, bourgs, et communes, du département de l'Oise. Beauvais, Tremblay, no date. — Quite out of date.

BIELLA

Mella. Antico battistero della cattedrale di Biella.

BLEIDENSTADT

Will. Monasterium Bleidenstadt. 1874.

BRESCIA

Archioni. Sul duomo vecchio. [Brescia], Provincia, 1881.

Odorici. Antichità christiane di Brescia. Brescia, 1845.

CIVIDALE

Gino Fogolari. Cividale del Friuli. Collezione di monografie illustrate. Serie Italia artistica. Bergamo, Istitute Italiano d'Arti Grafiche, [1906 ?].

R. Eitelberger von Edelberg. Cividale in Friaul und seine Monumente. (Gesammelte kunsthistorische Schriften, vol. IV, p. 323 f.) Wien, Braumüller, 1884. 8vo. — A rather interesting account.

L. Orlandi. Il tempietto di S. Maria in Valle di Cividale del Friuli. Udine, 1858.

COMO

Boito. Architettura del medio evo in Italia. — "Una bella monografia intorno al S. Abondio di Como." (Cattaneo.)

ESSEN

G. Humann. Der Westbau des Essener Münsters. Essen, Selbstverlag des Verfassers, 1890. 4to. — An excellent monograph.

G. Humann. Der Westbau der Münsterkirche zu Essen. Korrespondenzblatt des Gesamtvereins der deutschen Geschichts-Vereine, 1885, Nr. 11.

F. J. Pider. Das Ruhrthal. Werl, 1881.

Von Quast. Die Münsterkirche in Essen. (In Zeitschrift für christliche Archäologie und Kunst I, p. 1.)

F. J. Pider. Einiges zur Baugeschichte des Essener Münsters. (Essener Zeitung, 1881. Nr. 60.)

F. J. Pider. Die Gründung der Abtei Essen. (Essener Zeitung, 1880, Nr. 284.)

Von Quast. Die Münsterkirche in Essen, die gemeinsame Pfarrkirche für die katholischen Pfarren S. Johann und S. Gertrud. Essen, 1863.

F. J. Pider. Die Münsterkirche zu Essen. (Echo der Gegenwart, 1856, 26 Juli.)

Baudris. Die Münsterkirche in Essen. (In Organ für christliche Kunst, 1851, p. 89; 1892, p. 3.)

Prisac. Die Münsterkirche in Essen. (In Kölner Domblatt, 1844, Nr. 100, 101.)

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FRANKFURT

Carl Wolff. Der Kaiserdom in Frankfurt-am-Main. Eine baugeschichtliche Darstellung. Frankfurt A/M., Carl Jugal, 1892. 4to. — An excellent monograph with a satisfactory account of the Salvatorskirche.

Franz Jacob Schmitt. Die ehemalige karolingische Sanct Salvator-Basilika in Frankfurt-am-Main. (In Repertorium für Kunstwissenschaft, 1901, vol. 24, pp. 251–254.) — A terse and adequate publication. No illustrations.

Battoun. Der Kaiserdom zu Frankfurt A/M. Beiträge zur Geschichte des St. Bartholomaeus-Stiftes und seiner Kirche. Aus dem handschriftlichen Nachlasse des canonicus Johann Georg Battoun. Mit Anmerkungen herausgegeben von Kelchner. Frankfurt, 1869.

H. Grotefend. Die Bestätigungsurkunde des Domstiftes zu Frankfurt A/M von 882 und ihre Bedeutung für das Stift erläutert. Neujahrblatt des Vereins für Geschichte und Alterthumskunde zu Frankfurt a/M, 1884. — Important.

Kirchner. Ansichten von Frankfurt am Main, der umliegenden Gegend und der benachbarten Heilquellen. Frankfurt, 1818. 2 vols.

Müller. Historische Nachricht von dem weit berühmten kayserlichen Wahl- und Dom-Stifft S. Bartholomaei in Franckfurt, 1746.

FULDA

Heinrich von Dehn-Rotfelser. Die St. Michaelskirche zu Fulda. Kassel, 1866. Folio. (In Kassel-Verein für hessische Geschichte und Landeskunde, Mittelalterliche Baudenkmäler in Kurhessen, vol. 1.)

Gegenbauer. Die Baugeschichte Fuldas. Fuldaer Gymnasialprogramm, 1881.

J. F. Lange. Die St. Michaelskirche zu Fulda. 1855.

J. F. Lange. Baudenkmäler und Alterthümer Fuldas. 1847.

GERMIGNY-LES-PRÉS

G. Bouet. L'église de Germigny-les-Prés, etc. (Bulletin Monumental, 1868, vol. 34, p. 566.) — An excellent account.

Parker. Remarks on some early churches in France. (In Archæologia, 1857, vol. 37, p. 244.) — Contains an account of Germigny-les-Prés with a reproduction of the famous inscription.

GERNRODE

Fritz Maurer. Die Stiftskirche St. Cyriace zu Gernrode. Berlin, Ernst & Korn, 1888. Folio. (Romanische Bauten in Anhalt, I. Abtheilung.) — A satisfactory monograph.

GRANDLIEU

L. Maitre. Saint Philbert de Grandlieu. (Cong. Arch. de France, 63me sess, 1896; Bull. Arch. du Comité etc., 1896 et 1900; Bulletin Monumental, 1901.)

J. A. Brutails. Note sur l'église de St. Philbert de Grandlieu. (Bulletin Monumental, 1898.)

GRENOBLE

Marcel Reymond. La chapelle Saint Laurent de Grenoble. Paris, 1896.

HEIDELBERG

Schleuning. Die Michaelis-Basilika auf dem heiligen Berge bei Heidelberg. Eine baugeschichtliche Studie. Heidelberg, 1887. — Although containing several inaccuracies, this monograph is a valuable study not only of Heidelberg, but of the entire field of Carolingian architecture in Germany.

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C. MONOGRAPHS

HÖCHST A.M.

Franz Jacob Schmitt. Die karolingische Säulenbasilika Sanct Justinus zu Höchst am Main. (In Repertorium für Kunstwissenschaft, 1900, vol. 23, pp. 400–411.) — An excellent monograph, without illustrations.

Falk und Heckmann. Die karolingische Säulenbasilika zu Höchst. Geschichtsbulletin für die mittelrheinische Bisthümer. [1883.] 4to.

Ernst Gladbach. Sanct Justinus zu Höchst. (Moller'schen Denkmäler deutscher Baukunst III, pp. 7–11.)

Franz Hubert Müller. Sanct Justinus zu Höchst. (In Annalen des Vereins für nassauische Alterthumskunde und Geschichtsforschung. Wiesbaden, 1837. Heft III, S. 73–80.)

INGELHEIM

P. Clemen. Der karolingische Kaiserpalast zu Ingelheim. (In Westdeutschen Zeitschrift für Geschichte und Kunst, Jahrgang IX, 1890.)

V. Cohausen. Der Palast Karls des Grossen in Ingelheim und die Bauten seiner unmittelbaren Nachfolger daselbst.

JOUARRE

Rethoré. Les cryptes de Jouarre. Paris, 1889.

KOBLENZ

Paul Lehfeldt. Die Bau- und Kunstdenkmäler des Regierungsbezirks Coblenz. (Die Bau- und Kunstdenkmäler der Rheinprovinz.) Düsseldorf, L. Voss & Co., 1886. 8vo. — Contains a fairly good account of St. Castor's.

Wegeler. Beiträge zur Geschichte des S. Castors zu Koblenz, 1882.

A. J. Richter. Die Kastorkirche in Koblenz. Koblenz, 1868.

KÖLN (COLOGNE)

F. Bock. Karls des Grossen Pfalzkapelle. Köln, 1865.

LE MANS

Robert Charles. Guide illustré du touriste au Mans et dans la Sarthe. Le Mans, Pellechat, 1880. 12°. — A good guide book.

A. de Dion. La nef de la Couture. Tours, 1879. 8vo.

G. D'Espinay. L'église abbatiale de la Couture. Tours, 1878. 8vo.

LORSCH

R. Adamy. Die fränkische Thorhalle zu Lorsch an der Bergstrasse. Darmstadt, Im Selbstverlag des historischen Vereins für das Grossherzogthum Hessen, 1891. Folio. — An excellent monograph, which settles definitely the Lorsch question.

Schneider. Der karolingische Thorbau zu Lorsch. (In Correspondenzblatt des Gesammtvereins der deutschen Geschichts- und Alterthumsvereine, 1878, Nos. 1, 2.)

Falk. Geschichte des ehemaligen Klosters Lorsch an der Bergstrasse. Mainz, 1866.

Franck. Die Überreste des Klosters Lorsch. (Frankf. corr. Bl., 1861, 239.)

Konrad Dahl. Historisch-topographisch-statistische Beschreibung des Fürstenthums Lorsch. Darmstadt, 1812.

METTLACH

Chr. W. Schmidt. Baudenkmale der römischen Periode und des Mittelalters in Trier und seiner Umgebung. Trier, 1836–45. 2 vols. 4to and folio. — Contains an account of Mettlach.

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Wilhelm Effmann. Heiligkreuz und Pfalzel. Beiträge zur Baugeschichte Triers. Freiburgi Helvetiorum, 1890. 4to. — Good.

V. Cohausen. Der alte Thurm zu Mettlach. (In Zeitschrift für Bauwesen, Jahrgang XXI, 1871, p. 31.) — An excellent account.

M. F. Müller. Literatur-Anzeige über die in Trier bestehenden und zerstörten Bauten aus der ältesten und mittleren Zeit. Trier, 1840.

MILAN (GENERAL)

Francesco Malaguzzi Valeri. Milano. Collezione di monografie illustrate. Serie Italica artistica. Bergamo, Istituto Italiano d'Arti Grafiche, 1906. 4to. — A handbook of popular character well illustrated, and in general entirely adequate.

Pierre Gauthiez. Milan. Les villes d'art célèbres séries. Paris, Laurens, 1905. 4to. — A work of indifferent merit, at times entirely misleading.

Ernesto Marini. Milano illustrata; — cose, persone. Guide Marini. Genova, Edita per cura dell' autore, 1903. 8vo. — A concise guide-book which pretends to no scientific value.

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[1] See also list of sources in Carolingian bibliography. The documentary evidence for Lombard buildings, at least as far as it has been worked out, is almost nil.

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[1] See also the work of Dartein, cited above, p. 429.

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[1] For additional monographs on Milan see also Carolingian Bibliography, p. 424.

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ADDENDA

(p. 67.) Pagan basilicas converted into Christian churches. Since this work went to press a pagan basilica altered in later times into a Christian church is reported to have been discovered at Alise. No details of this find are as yet available.

(p. 124.) M. Grégoire has recently published three inscriptions on the beams of the roof of the monastery at Mt. Sinai. These in connection with an epitaph from Beersheba show that the edifice was finished between 548 and 562 A.D. (Bulletin de Correspondence Hellénique XXXI, 1907, p. 327.)

(p. 154.) The existing choir of St. Généroux is probably of the XI century.

(p. 156.) A group of monuments in southeastern Asia Minor recently published by Miss Bell throws much light on the pseudo-ambulatories of S. Giovanni and S. Gallo. In these districts it was quite the usual procedure to build a rectangular retro-choir with generally two apses, behind the main apse. These retro-choirs were entered from the side aisles and seem to have been designed for use in connection with ceremonial processions, although they differed from true ambulatories in that the wall of the main apse was solid instead of being carried on arcades. Analogous constructions are to be found in Africa. These examples, while certainly showing remarkable similarities, are probably independent attempts of builders in various parts of Christendom to find a solution to a common problem — a problem that was finally overcome by the invention of the true ambulatory.

(p. 173.) Comm. Rivoira, the latest writer on the subject, believes that the nave of S. Ambrogio was erected between 1088 and 1098.

(p. 181.) The existing choir of St. Généroux is probably of the XI century.

(p. 185.) REICHENAU. In a work on the primitive churches of Switzerland that appeared after this volume went to press, Dr. Guyer has reached certain conclusions in regard to the churches of Reichenau contradictory to those expressed in our text. The western portions of Sta. Maria zu Mittelzell he assigns to the X century. "Zwar ist, wie Beyerle gezeigt hat, die Kirche von Niederzell erst um die Mitte des XI Jahrhunderts entstanden. Wohl aber enthält die Kirche Sta. Maria zu Mittelzell Bauteile, die bis in das X, ja wohl bis in die karolingische Zeit zurückgehen. Sie ist eine flachgedeckte Pfeilerbasilica mit Doppelchor und Doppelquerschiff. An das Ostquerschiff ist in spätgotischer Zeit ein neuer Chorbau angefügt worden. Hingegen vermute ich, dass das Ostquerschiff noch zu der 813 begonnenen, 816 geweihten Kirche gehört. Mehr Umgestaltungen muss das Schiff durchgemacht haben. Höchstens die Pfeiler, wenigstens deren Kern, können noch aus der Gründungszeit stammen; die Seitenschiffmauern dagegen stammen wohl aus dem X Jahrhundert."

(p. 189.) PAVIA, Lombardy. *Chiesa di Montalino di Stradella.* Consists of

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a nave four bays long, two side aisles, and two apses, the third apse having been replaced by the modern campanile. The piers consist of a rectangular core with a shaft engaged on each face. Unfortunately, the much-mutilated condition of the edifice makes it impossible to be certain of the original disposition of the nave shaft, although Comm. Rivoira believes that it supported the timbers of the roof. He assigns the edifice to c. 970. (Rivoira II, 107.)

(p. 190.) MÜNSTER. *Kloster St. Johann.* Although the tradition that this abbey was founded by Charlemagne cannot be traced back farther than the XII century, it is in a measure confirmed by three facts: the abbey in the middle of the XI century was in the possession of the Carolingians; it existed as early as 805; and in 780–786 Charlemagne passed by this spot in the course of one of his campaigns. These evidences have, moreover, been strengthened by the recent discovery of the remains of a church of c. 800 with frescoes still intact. It was a wooden-roofed, single-aisled structure with apses of horseshoe form. A series of blind arches was carried along the clearstory wall externally, and the edifice seems to have been adjoined by a group of low buildings. In all these dispositions Dr. Guyer believes that the influence of the art of Asia Minor may be traced.

(p. 291.) JUMIÈGES. Seine-Inférieure. *St. Valentin* is said to have been erected by the abbot Urson (1101–1127). It is a church of three aisles, ending in a Renaissance choir with ambulatory. There is a clearstory in the nave, but no triforium. The archivolts are of two orders, and a flat pilaster forming a sort of system is engaged on the face of the nave piers.

(p. 293.) BOCHERVILLE. *St. Georges.* M. Coutan has recently undertaken to show that this monument dates entirely from the XII century. He has discovered evidence that Benedictine monks from St.-Évroult-d'Ouche were installed in 1114, and he holds that therefore no part of the present structure can be earlier than this date. He remarks that the archivolts of the tribunes and transepts are decorated with chevrons. Comm. Rivoira, the most recent writer on the subject, assigns the church to c. 1100, with the exception of the façade and the vaults.

(p. 233.) RIVOLTA D'ADDA, Lombardy. *Sta. Maria e S. Sigismondo* is thought to have been erected before 1095, and, according to Comm. Rivoira, during the pontificate of Victor III (1068–1088). It consists of a nave, two side aisles, and three apses. The apses have half-domes; the double bay of the nave preceding the principal apse is barrel-vaulted; the remainder of the nave is covered with rib vaults, the side aisles with groin vaults. Since, as regularly in the Lombard style, one bay of the nave corresponds to two of the side aisles, the system is necessarily alternate. The alternate piers have one member to carry each of the vaulting ribs except the wall rib, which merely fades away. In the intermediate piers there is a shaft engaged on the nave side, but this receives a capital supporting nothing at the main impost level. The clearstory is well developed, but there is no gallery nor triforium. Externally the buttresses carried across the aisle roofs project; the cornices are formed of arched corbel-tables. The apse is obviously of the XII century. (Rivoira II, 189.)

(p. 297.) CERISY-LA-FORÊT, *Église.* According to Comm. Rivoira, the latest writer who has studied this monument, there remain of the edifice begun c. 1030

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three of the right original bays (the last of which was placed between the two towers of the façade), the eastern portions of the crossing, and the transepts in part.

(p. 318.) DUCLAIR. *St. Denis.* This interesting church has recently been studied by M. des Forts. It consists of a nave, two side aisles, a central tower, and a choir of the XIV century. The nave, three bays long, projects to the westward beyond the side aisles; it is characterized by round archivolts of a single unmoulded order, and evidently dates from the XI century, although it has been much disfigured by modern alterations. The crossing, on the other hand, is clearly later, for the arches are richly adorned with chevrons and frets, and a rib vault is placed beneath the central tower. I am unable to follow M. des Forts in assigning this part of the edifice to the first quarter of the XII century; the style would seem to me to indicate a date c. 1170 or even later. The church contains interesting glass. (Des Forts.)

(p. 119.) RAVENNA. For the sake of completeness, a list of the Early Christian edifices of Ravenna is here included: *S. Giovanni in Fonte* — Ill. 46 — ("Baptistery of the Orthodox") was the baptistery of the cathedral. This beautiful little building was erected by Bishop Neo (449–452).[1] The plan of the structure is simplicity itself — a plain octagon is broken by four niches and two entrances. The interior decoration, however, is rich and varied, the entire wall surface being covered with a composition of blind arcades. This decoration is applied in two stories: in the lower, whose proportions have been marred by the raising of the pavement, a series of blind arches is so placed that one arch occupies each side of the octagon; in the upper, on each side of the octagon, is a similar arch enclosing three smaller arcades, in the central one of which is placed a window. The capitals of the lower story are Composite, those of the upper, Ionic, both with stilt-blocks. The mosaics which ornament the dome and the wall surfaces are noble examples of *opus græcanicum.* The effect of this interior suggests Byzantine influence, though the building in its main characteristics is thoroughly Early Christian. In contrast to the richly ornamented interior is the severely simple exterior. The walls of plain brick are relieved only by arched corbel-tables, and the dome is protected by a low wooden roof which robs it of all architectural effect. This dome, resting on well developed proto-pendentives, is constructed in a manner peculiar to the churches of Ravenna. Earthenware pots, fitting together so that the base of one interlocks with the neck of the other, are wound round and round like the strands of straw in a straw hat, the whole being made solid with plaster. All lateral thrusts are thus avoided. (Dehio.)

S. Apollinare Nuovo was begun by Theodoric in the first year of his reign (493) as the cathedral of the Arian faith — a fact which may partly explain the Byzantine influence so evident in the details. The church is a three-aisled basilica, without transepts or gallery. The apse, rebuilt in the times of the Renaissance, was formerly semicircular internally, but polygonal externally, and was preceded by a rectangular

[1] The inscription might be taken to imply merely a rebuilding of an older structure (did not this seem to be contradicted by internal evidence): "The ancient name passes away; the ancient passes into the new; more beautiful behold the glory of the renovated fount shine forth, now that the magnanimous and mighty Priest Neo has adorned it, dedicating all to glorious religion."

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bay. The proportions of the main body of the church are striking, the nave being so broad as to appear almost square. Mosaics ornament the triforium; the capitals which support the arches of the main arcades are of a Byzantinesque-Corinthian type, with plain stilt-blocks on whose faces crosses are carved. The interior narthex, originally completely closed in the Byzantine manner, has been rebuilt, and the ancient atrium has also disappeared. At an angle of the façade still stands the round campanile, quite similar to those of the cathedral and of S. Apollinare in Classe, but only the lower half belongs to the original structure of the VIII (?) century. The exterior of the church is severely plain, and is interesting only for the blind arcades which enclose the windows.

Tomb of Galla Placidia ("Ss. Nazario e Celso") built between 430 and 450, is highly interesting as the earliest existing example of a distinctly cruciform building. The plan, perhaps a copy of that of the Church of Ss. Apostoli of Milan, forms a perfect Latin cross, the head and both arms — all of which have square terminations — being each occupied by a chapel for the reception of a sarcophagus. The crossing is crowned by a dome on proto-pendentives; the rest of the building is covered with barrel vaults. The dome is raised on a little clearstory above the arms. Internally the whole structure is aglow with splendid color reflected from the V century mosaics which cover every inch of the vault surface; externally the plain brick walls are relieved only by blind arcades. The nave and transepts terminate in low, clumsy pediments with heavy raking cornices of brick. (Dehio; Venturi.)

Tomb of Theodoric († 526) is a most peculiar construction, entirely without analogy among the buildings of the VI or of any other century. Instead of being constructed of brick, as are the other buildings of Ravenna, it is built of fine dressed blocks of stone. Externally the building was a decagon, with niches in the lower story, and in the upper a covered arcade which is now destroyed. Internally the lower story had a plan of the form of a Greek cross, while the upper was circular. The cupola consisted of a monolith of colossal size. Near its base was a ring of ten projecting spurs of most peculiar character. The only explanation yet offered to account for these spurs, suggests that they were used to attach a rope or chain in hoisting the stone. On the summit are indications of four columns, whose use is unknown. (Dehio.)

S. Spirito ("S. Teodoro"), perhaps the earliest of all the monuments of Ravenna, was originally founded by Agapitus in 206, but was rebuilt by Theodoric, who transferred it to the Arian faith at the close of the V century. This important and interesting church is a three-aisled basilica with a nave fifteen bays long. The aisles, separated by ranges of pilfered columns, terminate in three apses, all semicircular internally. The triforium is decorated with mosaics. Outside the south aisle are said to be traces of an open colonnade.

Sta. Agata (Ill. 33) was founded in the time of the Archbishop Esuperanzio (425–432), but a restoration executed in 1476–1494 has largely destroyed the original building. The round campanile dating probably from the VIII century was then rebuilt, the clearstory windows were changed, and the chapels added. The exterior, however, with its gabled front, still retains a good deal of its former aspect. Also in the interior twenty of the original columns survive, and the crypt and the inner

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vestibule, opening into the nave by a single arch are perhaps parts of the primitive construction. The apse has been rebuilt. The great interest of this church lies in its capitals, which are probably part of the original construction and some of which bear every evidence of having been executed for the position they now occupy. If this be the case, they are most interesting and unique examples of Early Christian carving. Some have stilt-blocks of very Byzantinesque design. One is a bell capital entirely uncarved and of the most curious proportions; another is a bell capital with a few detached leaves plastered upon it, as it were, at random. A third type is a crude Composite, with two rows of uncut leaves squeezed down around the necking, leaving the upper part of the bell below the volutes bare. Altogether these capitals suggest so many analogies with Romanesque work, that could they be proved to be of the V century they would throw much light on the origin of that style. At all events, they are worthy of much more careful study than has yet given them.

Palace of Theodoric. The chief extant remains consist of a fragment of the façade 65′ long, for the foundations that have recently been excavated in the rear do not throw much additional light on this interesting building. The façade is constructed of brick work, and is divided into three bays by pilaster strips: the center is occupied by the entrance with a great arch above it on the second floor; the two side bays have each four blind arcades, whose supports, except the outer pilaster strips, are colonnettes resting on corbels at the level of the second story.

S. Francesco, one of the earliest of the Ravenna basilicas, is said to have been founded at the beginning of the V century, but was rebuilt in 1793. The ancient square campanile of unknown date which still stands at the angle of the façade and the two ranges of pilfered columns, eleven on either side of the nave, are all that remains of the ancient edifice. The stilt-blocks surmounting the columns are said to be the earliest known examples of that feature.

Baptistery of the Arians was originally an octagon, with apses on four of its sides, surmounted by a dome on proto-pendentives. This monument was built by Theodoric (489–526) in the early years of his reign, as the baptistery of the Arian cathedral On the suppression of the Arian faith thirty years later, the baptistery was converted into a chapel, by the destruction of three of its apses and the addition of a nave. The monument still retains its mosaics of the VI century and some traces of the ornamentation in two stories of arcades, similar to those of S. Giovanni in Fonte. (Dehio; Cummings.)

Palace of the Archbishop contains a cruciform chapel, dating from about 450, remarkable for its mosaics. A central square is bounded by four semicircular arches and covered by a groin vault. From this central area opens on the east a tribune with an altar, and on the other sides shallow recesses of the same depth as the arches just mentioned. (Dehio.)

Cathedral. The original church of Ursus built in the first years of the V century was destroyed in the XVII century to make way for the present structure. Only the round campanile, of later though of unknown date, survives.

S. Giovanni Evangelista, erected by Galla Placidia in 434, was almost entirely

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rebuilt in 1747 except the campanile. In the court, however, the old atrium may still be traced, and the ancient columns remain in the interior of the church.

S. Pier Crisologo is said to have been built by the Archbishop Pier Crisologo between 433 and 449. The interior is decorated with marbles, stuccos, and mosaics. The chief interest of the structure, however, lies in the exterior cornice, whose dentils suggest the Romanesque corbel-table, and whose zig-zag brickwork foreshadows Carolingian triangular decoration. (Rivoira.)

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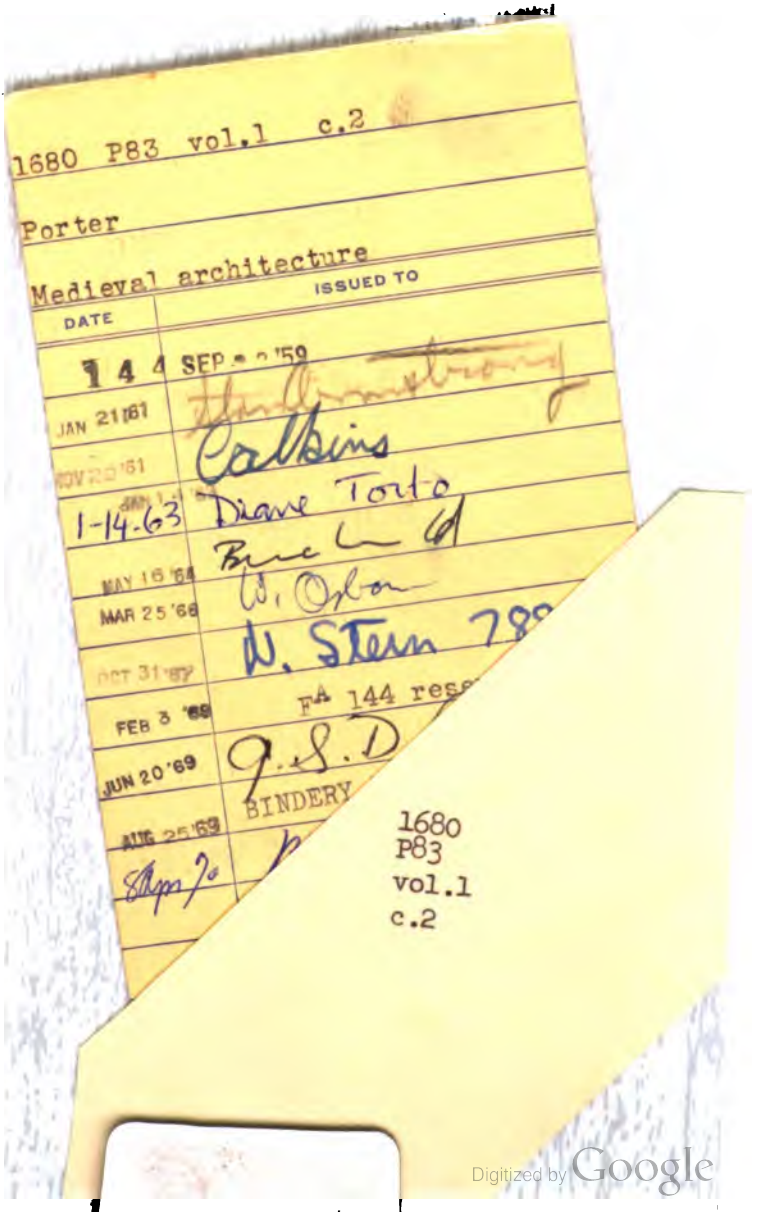

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